

Completion Report
DBT Star College Scheme
(September, 2014 – June, 2019)

Submitted By

Shaheed Rajguru College of Applied Sciences for Women

Vasundhara Enclave

Delhi-110096

Participating Departments

Department of Biomedical Science

Department of Food Technology

Department of Instrumentation

DBT Star College Report (Year Wise)

1st Annual Report (September, 2014 – March, 2015)

1) STUDENTS

Name of the Course: B.Sc. (H) Biomedical Science

Dissertation /Project:

- Students from Biomedical Science and Instrumentation department worked on a research project in which they have isolated the phytochemicals presents in spices and screened them for their antimicrobial activity.

Visits to Research Institute/Industries: NIL

Summer Training:

- 12 Students are undergoing summer training in the Department of Biomedical Science and working on a project entitled “Isolation of active constituents of *Adhatoda vasica* plant parts using chromatographic techniques”.

Name of the Course: B.Sc. (H) Food Technology

Dissertation /Project: NIL

Visits to Research Institute/Industries:

- 40 Students visited **National Dairy Research Institute, Karnal** on 27/02/2015. They have learned about Milk Processing Plant (Pilot dairy) and the functioning of spray drier, roller drying and HTST pasteurizer and Processing of various dairy products in state of art plant. They have also visited adjacent Model Dairy plant to see LDPE packaging for market milk.
- 52 students visited **Yakult Danone India Pvt. Ltd. Sonipat** on 09/03/2015. It's a state to art biotechnology industry with complete automation. Students visited production line through visitor's gallery to packaging and storage unit including quality control lab and attended a presentation about the company Yakult danone, which is a joint venture between Yakult Honsha (Japan) and Groupe Danone (France) both are global probiotics leaders.

Summer Training: NIL

Name of the Course: B. Sc. (H) Instrumentation

Dissertation /Project:

- The second semester students made a project based on electricity generation using plants.

- 6 th sem. students designed a pacemaker for showing its function in heart abnormal conditions.

Visit to Research Institute/Industries

- To give an exposure on quality control in an industry, Instrumentation Department has organized an industrial trip to *M/s Yakult Danone India Pvt. Ltd, 402-405, Food Park, Rai Industrial Area, HSIIDC, Sonapat, Haryana on 10th February, 2015* for B. Sc. Instrumentation (6th Semester) students. The students has learned about the process and technology used for the preparation of Yakult milk bottles.

Summer Training: NIL

2) FACULTY

Name of Department	BIOMEDICAL SCIENCE
Name of Faculty	Dr. Varsha Mehra Dr. Radhika Bakhshi Dr. Shruti Banswal Dr. Saquib Ansari Dr. Indu Arora Dr. Manisha Khatri Dr. Safdar Ali
List of Internal Faculty trained for Skill Improvement	NIL
Awareness generation programs / exhibitions / seminars, training programmes etc. for teachers/students of other colleges/ students	<ul style="list-style-type: none"> ➤ The Department of Biomedical Science, organized its first National Conference on “Understanding the Mechanism and Challenges of Complex diseases (UMCCD-2014)” on 29th to 30th December, 2014. Prominent Scientists and well known physicians like Dr. Anoop Misra, Chairman Fortis, Dr. Shiv Kumar Sarin, Director ILBS, Dr. Tara Devi S. Ashok, Senior Faculty, University of Massachusetts, Boston USA and many more were the speakers for this conference. This was a well-attended mega event with delegates from over 140 Colleges of University of Delhi, AIIMS, MAMC, UCMS, IGIB, INMAS, and other renowned Institutes and Universities of the country. ➤ The Department organized a workshop for Biomedical Science, Food

	Technology and Instrumentation students on “Bioinformatics: An Interdisciplinary Science” on 26-27 Feb, 2015. The participating students were introduced and trained in several aspects like assessing databases (sequence and structure, DNA, RNA and protein); visualizing 3D protein structure and extracting/analyzing satellite sequences from viral genomes.
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Name of Department	FOOD TECHNOLOGY
Name of Faculty	Dr. Deepa Joshi Dr. Ranjana Singh Ms. Para Dholakia Ms. Saumya Chaturvedi Ms. Shikha Goel Ms. Chaynika Ms. Vandana
List of Internal Faculty trained for Skill Improvement	NIL
Awareness generation programs / exhibitions / seminars, training programmes etc. for teachers/students of other colleges/ students	World Food Day was celebrated on 16/10/2014. Various lectures from the eminent scientists were organized on the theme “Family Farming Feeding the world, Caring for the Earth.” Various competitive events Food Tech. quiz, debate, college making comic skit and Ad making on food based themes were also organized.

Name of Department	INSTRUMENTATION
Name of Faculty	Ms. Daya Bhardwaj Dr. Sneha Kabra Dr. Jasjeet Kaur Dr. Sadhna Jain Dr. Rekha Mehrotra Ms. Monika Tyagi Ms. Himani Dua Ms. Tanu Bharwaj Ms. Ritu Jain
List of Internal Faculty trained for Skill Improvement	NIL
Awareness generation programs / exhibitions / seminars, training programmes	Workshop on “GLC and HPLC” has been scheduled for the teachers and students of Food

etc. for teachers/students of other colleges/ students	technology and Biomedical sciences department in the second week of July 2015.
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3) GUEST FACULTY INVITED BY DIFFERENT PARTICIPATING DEPARTMENTS

Department of Biomedical Science

Name	Designation	Host Institute	Duration of Visit	Topic of Lecture/Discussion
Dr. Manju Sharma	Former Secretary, Department of Biotechnology	Shaheed Rajguru College	5 th Nov, 2014	Excitement & Application of Biotechnology for Sustainable Development
Dr. V. P. Sharma	Former Dean, National Institute of Malaria Research	Shaheed Rajguru College	5 th Nov, 2014	Water and Health
Prof. Samir K. Brahmchari	Former DG, CSIR and Founder Director, IGIB	Shaheed Rajguru College	7 th Nov, 2014	Open Innovation , Big Data and Crowd Sourcing : The Next Frontier

Department of Food Technology

Name	Designation	Host Institute	Duration of Visit	Topic of Lecture/Discussion
Dr. Arvind Kumar	Vice Chancellor, RLBC. Agricultural University.	Shaheed Rajguru College	16.10.14 9am-1pm	Role of agricultural education in Food & Nutrition security.
Dr. Neeraj Sharma	Agricultural Economist & Consultant, Food & Agricultural	Shaheed Rajguru College	16.10.14 9am-1pm	Need of family farming in feeding India & the World by 2020

Department of Instrumentation

Name	Designation	Host Institute	Duration of Visit	Topic of Lecture/Discussion
Prof. Sneha Anand	Professor, Indian	Shaheed Rajguru College	1 Day (12:15-01:00pm on	Engineering marvels for health care solutions- an

	Institute of Technology, Delhi		5 th January 2015)	interdisciplinary scientific approach
Mr. Somnath Ganguly	Associate Director, Analytical Research, Ranbaxy	Shaheed Rajguru College	1 Day (09:30-10:00am on 6 th January 2015)	Chromatographic Techniques – Recent trends & future
Mr. Ashutosh Sharma	Associate Director, Analytical Research, Ranbaxy	Shaheed Rajguru College	1 Day (10:00-10:30am on 6 th January 2015)	Characterization in Pharmaceuticals,

4) LIST OF NEW PRACTICALS/TECHNIQUES/MINOR RESEARCH PROJECTS:

Department of Biomedical Science

- The practicals on isolation of phytochemicals were introduced to the students during pharmacology practicals and added in medicinal chemistry practicals.
- Analysis of Purity of chemicals and compounds were included in medicinal chemistry practicals.

Department of Food Technology

- **Technique:** - The Bioage –Biofermenter has been procured by Food Tech. using DBT Star college grant. The technique of 'biofermentation' using this bioreactor will be a big asset to our pilot plant. It has microcontroller and other automate controls and a software USB interface to PC for trends/graphs and tabular data with inbuilt memory for one year data storage.
- The practical on concentration of fruits and vegetable juices and milk and milk products was included in food engineering and food quality practicals.

Department of Instrumentation

- The practicals on sample extraction from biological origin like medicinal plants were included in 5th and 6th sem. Analytical Instrumentation lab.
- The students were trained on reflux extraction and rotatory evaporator.

5) IMPACT OF DBT SUPPORT

- Long term changes yet to be seen.

- The financial support gives lot of freedom especially for student centric activities, which otherwise is difficult due to budgetary constraints and/or procedural difficulties.

DBT Star College Report (Year Wise)

2nd Annual Report (April, 2015 – March, 2016)

1) STUDENTS

Name of the Course: B.Sc. (H) Biomedical Science

Dissertation /Project:

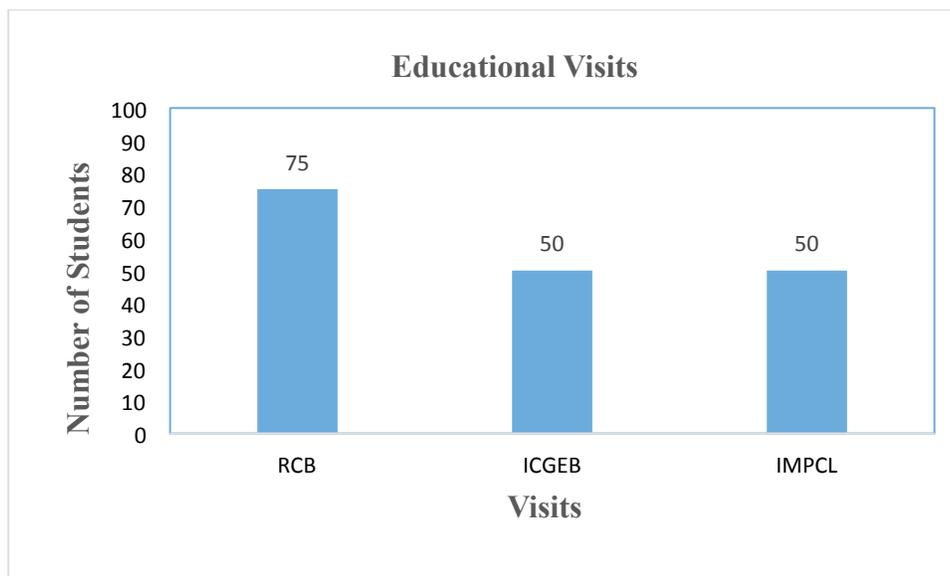
- 10 Students from Biomedical Science and Food Technology department worked on a research project in which they have isolated the phytochemicals presents in the leaves of *Murraya Koengi* and screened them for their anti-diabetic activity.
- 10 Students from Biomedical Science and Food Technology department worked on a research project in which they have synthesized some chemical compounds and checked them for their *in vitro* anti-diabetic activity.
- 10 Students from Biomedical Science, Instrumentation and Food Technology department worked on a research project in which they have synthesized silver nano particles and tested them for their pesticide degrading activity.
- 10 Students from Biomedical Science, Computer Science and Electronics department worked on a research project of Bioinformatics.
- 10 Students from Biomedical Science, and Food Technology department worked on a research project in which they have cloned a gene for its role in cancer.
- 10 Students from Biomedical Science, and Food Technology department worked on a research project in which they are isolating the halotolerant bacteria from the salt stressed soil.

TOTAL NUMBER OF BENEFICIARIES: 60 UNDERGRADUATE STUDENTS

Visits to Research Institute/Industries:

- 75 students from the three participating Departments visited **Regional Center for Biotechnology (RCB), Faridabad** on 3rd Feb, 2016. It is an Institution established by the Department of Biotechnology, Govt. of India with regional and global partnerships synergizing with the programs of UNESCO. Students have observed and learnt about the newer and emerging techniques, instruments used over there. Amongst the instruments about which students learnt includes Nuclear Magnetic Resonance (NMR), Mass Spectroscopy, X-Ray Diffraction (XRD), Florescent Microscopy, Florescence Activated Cell Sorting (FACS), Protein Sequencer, HPLC etc. Also techniques like cell culturing, plant culturing were encountered.
- An educational visit for 50 students of B.Sc. (H) Biomedical Science to **International Center for Genetic Engineering and Biotechnology (ICGEB)** was arranged on 20th October, 2015.
- One educational visit to the **Indian Medicines Pharmaceutical Corporation Limited (IMPCL)** was also organized for around 50 students of Department of Biomedical

Science. It is a Government of India enterprise, under the Administrative Control of the Department of AYUSH Ministry of Health and Family Welfare, New Delhi.



TOTAL NUMBER OF BENEFICIARIES: 150 UNDERGRADUATE STUDENTS

Summer Training:

- **One** B. Pharma Student from DIPSAR is undergoing summer training in the Department of Biomedical Science and working on a project entitled “Isolation of active constituents of *Adhatoda vasica* plant parts using chromatographic techniques”.
- **One** undergraduate student from SRM University, Chennai underwent four weeks training in the project entitled “Antidiabetic activity of *Murraya koeingi* leaves extracts”.
- **40** M.Sc. Forensic Science students underwent seven days hands on training on different bioanalytical techniques from 18th Feb to 23rd Feb, 2016.

TOTAL NUMBER OF BENEFICIARIES: 2 UNDERGRADUATE & 40 POSTGRADUATE STUDENTS FROM OTHER UNIVERSITIES

Name of the Course: B.Sc. (H) Food Technology

Dissertation /Project: Food Technology students in the group of three worked on under mentioned projects.

1. Adulteration in food stuff
2. Vacuum cooling of baked products
3. Integrated flow temperature sensor
4. Viscosity of sugar syrup

5. Microbiological safety of street juice vs processed juice
6. Assessment of air quality in and around college campus
7. Microbiological analysis of tap water from different zones of Delhi
8. Effects of irradiation on strawberries and subsequent microbiological shelf life analysis
9. Correlation of air microbial load with air pollution
10. Microbial analysis and sanitation conditions of different food preparation surfaces by swab technique.
11. Assessment of personal hygiene by swab method
12. Comparing the efficiency of UV, RO, chlorination treatments given to water to make it safe for drinking
13. Microbial analysis of street food Vs homemade food.
14. Osmotic Dehydration of Papaya- Optimization and Standardization.
15. Effect of Temperature on Physical Properties of some Fats and Oils.
16. Development of corn starch based films.
17. Comparative study of dehydration by Sun-drying and Tray drying Methods.
18. Effect of Irradiation on foods and subsequent shelf life analysis.
19. Effect of incorporation of Cauliflower leaf powder on sensory and nutritional Quality of Chapattis.

TOTAL NUMBER OF BENEFICIARIES: 3 students per project = 19X3= 57 undergraduate students

Visits to Research Institute/Industries:

75 students from the three participating departments visited **Regional Center for Biotechnology (RCB), Faridabad.**

Name of the Course: B. Sc. (H) Instrumentation

Dissertation /Project:

Visit to Research Institute/Industries

- Instrumentation Department has organized a one day industrial tour to Envirotech Instruments Pvt. Ltd. situated in Okhla Industrial Area on 14th December, 2015 for final year students (**35**) of Instrumentation. Students learned how to run Envirotech Equipment APM 550 for sampling of ambient air along with gaseous sampling for Nox and SOx. They were given a lecture session on how to analyze the collected sample and compare the result on calibration curves.
- Instrumentation Department has organized a one day industrial tour to Institute of Nuclear and magnetic Allied Sciences (INMAS) on 18th December, 2015 for second year students of Instrumentation (**40**). The students visited various biomedical departments

and learned about the working of equipment available at the institute i. e. PET, CT- Scan, Mammography, Gamma camera, NMR machine etc.

- Instrumentation Department has organized a two day industrial tour to Central Scientific Instruments Organization (CSIO), Chandigarh on 14th -15th April, 2016 for second and third year students of Instrumentation (75). CSIO has infrastructural facilities in the areas of microelectronics, optics, applied physics, electronics, and mechanical engineering. R&D programs are in food & agriculture, health and rehabilitation, avionics, snow and seismic monitoring in strategic sector, landslide and structure health monitoring for public safety, and bio and nano-sciences.

TOTAL NUMBER OF BENEFICIARIES: 150 UNDERGRADUATE STUDENTS
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Summer Training:

- **Six students** of Class X from AMITY International School, Mayur Vihar has executed their summer project entitled “Effect of storage container on the portability of water”. The students analyzed various parameters of water like organoleptic (Color, odor, taste), Physical (TSS, TDS, Temperature etc.), chemical (pH) and biological (presence of coliform bacteria) using different instruments as per BIS specifications. The project was completed successfully. The result showed significant change in most of the properties of water stored in different types of containers.

2) FACULTY

Name of Department	BIOMEDICAL SCIENCE
Name of Faculty	Dr. Varsha Mehra Dr. Radhika Bakhshi Dr. Shruti Banswal Dr. Saquib Ansari Dr. Indu Arora Dr. Manisha Khatri Dr. Safdar Ali Dr. Parvinder Kaur
List of Internal Faculty trained for Skill Improvement	Dr. Varsha Mehra and Dr. Manisha Khatri presented a poster entitled “Antibacterial potential of Elletaria cardamomum, Syzygium aromaticum and Piper nigrum, their synergistic potential and total bioactive component determination” in International Conference AMI - 2015 organized by JNU from 7 th December 2015 to 10 th December 2015.
Awareness generation programs / exhibitions / seminars, training programmes etc. for teachers/students of	1. World Pharmacy Week (4 th Sept – 11 th Sept) The Department of Biomedical Sciences organized World Pharmacy Week in essence of spreading awareness to the use and effects of pharmaceuticals, substantiating this with the authentic visuals and presentations. The event commenced with a presentation on general pharmacology and the related domains followed by an

<p>other colleges/ students</p>	<p>animated presentation of scientoons, most of which were created by the students themselves (this proved to be the eminence for the day) and a presentation on the interesting and valuable drug discoveries.</p> <ol style="list-style-type: none"> 2. World Alzheimer’s Day (21st Sept, 2015) The Department of Biomedical science, organized Alzheimer’s Day on the occasion of World Alzheimer’s Day i.e. 21.09.15 by inviting eminent scientists and social activists to grace the occasion. Dr Pravat K. Mandal, Scientist-VI from National Brain Research Center delivered an extremely knowledgeable talk. 3. Inter College Festival: Plexus (14th Oct, 2015)“Chimera”, the Biomedical Science society of Shaheed Rajguru College of Applied Sciences organized its technical fest ‘PLEXUS-2015’ on 14th October 2015 with the theme “NEUROSCIENCES”. The event was graced by the presence of eminent scientists in the field of Neurobiology. Prof. B. N. Mallick, JNU presented his research on “Neural substrate of sleep associated to dream. Dr. Beena Sawhni, Directorate General of Health services, Ministry of Health and Family welfare, Govt. of India, focused on the basics of Neurobiology. 4. Interaction with Alumnus: Ms. Ankita Arora (22nd Jan, 2016) Department has also organized an interaction with the first batch alumnus, Ankita Arora on 22nd January, 2016. She has completed her Ph.D from Germany and gave a presentation on her Ph.D. work.
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<p>Name of Department</p>	<p>FOOD TECHNOLOGY</p>
<p>Name of Faculty</p>	<p>Dr. Deepa Joshi Dr. Ranjana Singh Ms. Para Dholakia Ms. Saumya Chaturvedi Ms. Chaynika Ms. Vandana</p>
<p>List of Internal Faculty trained for Skill Improvement</p>	<p>➤ Ms. Saumya Chaturvedi, Ms. Vandana and Ms. Shikha Goel attended a four day program on “Trends in harnessing Food safety and quality” in IIT Delhi from 1st -4th Dec, 2015.</p>
<p>Awareness generation programs / exhibitions / seminars, training programmes etc. for teachers/students of other colleges/ students</p>	<ol style="list-style-type: none"> 1. The Department of Food Technology, organized first National conference on “Advances in Food Science and Technology” on 16-17 March, 2016. It provided a common platform to research scholars, academicians, industry professionals and students to share new innovations, research findings, recent trends and developments in the area of Food science, Nutrition, Safety, Food Regulatory affairs etc. The conference began with a formal inaugural session. Dr. K.M. Chacko, Director, Sri Ram Institute of Industrial Research was the guest of honour. Other

	<p>speakers included Mr. K. L. Radhakrishnan, Former Secretary and Chief Editor, All India Food Processors' Association, Dr. T. S. R. Murali, Head, R&D, Mother Dairy Fruits and Vegetables Pvt Ltd, Mr. Neeraj Sharma, Consultant, Food and Agribusiness.</p> <ol style="list-style-type: none"> 2. World Heart Day (29th Sept, 2015), It was celebrated with great vigour and enthusiasm by the Department of Food Technology. The event was marked by the student's presentations and various activities. The presentations emphasized upon the necessity to protect our heart, various problems associated if not taken care of and how one can start caring for their heart at a very personal level to avoid future problems. 3. World Food Day (13th Oct, 2015) Department of Food Technology celebrated the World Food Day on 13th October this year. The event was graced by Dr. Arvind Kapur, CEO Rasi Seeds Pvt Ltd, Gurgaon, Dr. T S R Murali, Chief R&D Officer, Mother Dairy Fruit & Vegetable Pvt Ltd and Dr. S. Lakshmi Devi, Founder principal &honorary director, CECOP. 4. Counselling Session by Alumnis: A counseling session on 'Career opportunities in Food Technology' was organized for students on 13thFebruary, 2016. The event started with the introduction of alumni by Ms. Para Dholakia, Head of Department. Then the alumni, who have expertise in their fields and a wide array of knowledge, introduced themselves with brief information of their career. Alumni included Ms. Manasi Shukla (2005 batch) working with WFP, Ms. Gayatri Bahal (2007 batch), Ms. Neelam Upadhyay (2008 batch) working as scientist at NDRI, Karnal and Ms. Satakshi Sharma (2012 batch) working at SGS pvt. Ltd. This was followed by interactive session. 5. Conquest'2016 To encourage budding managers & entrepreneurs in and around Delhi University Colleges, the E-cell of college organized a management fest entitled CONQUEST on 30th March, 2016. Keynote speakers were Prof. S.K. Palhan, Director, Great Lakes IEMR, Gurgaon , Mr Siddhant Bhansali , an Entrepreneur whohas mentored over 150 startups across multiple domains and Ms. Runjhun Gupta, Entrepreneur, Artist, Inspirational speaker, Founder at ZipOut. 6. Department Organised two day training programme on 16th - 17th June 2015 with National Centre for Cold Chain Development (NCCD), wherein 35 students and faculty from food technology and Instrumentation department attended classroom sessions and field visit to a ripening unit.
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Name of Department	INSTRUMENTATION
Name of Faculty	Dr. Daya Bhardwaj

	<p>Dr. Sneha Kabra Dr. Jasjeet Kaur Dr. Sadhna Jain Dr. Rekha Mehrotra Ms. Himani Dua Ms. Neha Garg Ms. Ritu Jain Mr. Yogesh Pratap</p>
<p>List of Internal Faculty trained for Skill Improvement</p>	<p>1. Dr. Daya Bhardwaj, Faculty member of department of Instrumentation, has</p> <ul style="list-style-type: none"> • Presented a paper entitled “Interspecies variability assessment of <i>B. aristata</i> and its related species using HPLC fingerprinting and principle component analysis for standardization and quality control of their herbal drugs” in the 3rd International Conference and Exhibition on Pharmacognosy, Phytochemistry and Natural products” organized by OMICS from 26th-28thOctober, 2015 in Hyderabad, India. • Presented the paper “Comparison of analytical methods in combination with multivariate techniques for the quality assessment of raw material and formulations containing <i>B. aristata</i> and its related species” in 2nd International symposium on Plants and Microbial products (ISNPMP 2016) organized at IHC Delhi from March 1-2, 2016 <p>2. Ms. Himani Dua, Faculty member of department of Instrumentation, has organized a three day workshop on "Multisim Software" from 8th-10th of December 2015 in Shaheed Rajguru College of Applied Sciences for Women, University of Delhi.</p> <p>3. Mr. Yogesh Pratap, Faculty member of department of Instrumentation, has been</p> <ul style="list-style-type: none"> • Got Best Paper Award for the paper entitled “CSDG MOSFET: An Advanced novel architecture for CMOS Technology” in International Conference “INDICON”, held at Jamia Millia Islamia University, 17th -20th December -2015, New Delhi, India. • Participated in <i>Hands on Training</i> on Nanotechnology Fabrication in IIT Bombay from 4 June 2016 to 11 June 2016. • Research Paper resented in 7th International conference INEC 2016, 9th-11th May -2016, Chengdu, China. • Faculty Coordinator of workshop on PLC SCADA 2016, Organized by Deptt. Of Instrumentation, Shaheed Rajguru College of Applied Science for Women, University of Delhi, New Delhi, India. • Faculty Coordinator of Robotics workshop 2016, Organized by

	<p>Shaheed Rajguru College of Applied Science for Women, University of Delhi, New Delhi, India.</p> <ul style="list-style-type: none"> • Attended one Day Short Course On Quantum Transport in Carbon-Based Devices organized by Dept. of Electronics, University of Delhi South Campus, New Delhi – 110021 on January 13, 2016. • Attended IEEE Distinguished Lecture on Creating a Perfect Dielectric-Semiconductor Interface with High-k Gate Dielectrics for sub-14nm CMOS Technology organized by Dept. of Electronics, <i>University of Delhi South Campus, New Delhi – 110021</i> On January 8, 2016. • Attended IEEE EDS Distinguished Lecture on Outlook and Challenges of Electrostatic Discharge (ESD) Protection of Modern and Future Integrated Circuits organized by Dept. of Electronics, University of Delhi South Campus, New Delhi – 110021 on 14th December, 2015. • Published in refereed International journals “Physics-Based Drain Current Modeling of Gate- All-Around Junctionless Nanowire Twin-Gate Transistor (JN-TGT) for Digital Applications,” Journal of Computational Electronics, (Accepted), 2016. • Published in refereed International journals “Gate Material Engineered Junctionless Nanowire Transistor (JNT) with Vacuum Gate Dielectric for Enhanced Hot Carrier Reliability,” IEEE Tran. on Device and Material Reliability, (Accepted), 2016. • Published in International Conferences “Sensitivity Investigation of Gate-All-Around Junction less Transistor for Hydrogen Gas Detection,” Yogesh Pratap, Manoj Kumar, S. Halдар, Mridula Gupta, R. S. Gupta, 7th International conference INEC 2016, 9th - 11th May -2016, Chengdu, China. • Published in International Conferences “DMG Insulated Shallow Extension Cylindrical GAA Schottky Barrier MOSFET for Removal of Ambipolarity: A Novel Approach,” Manoj Kumar, Yogesh Pratap, S. Halдар, R. S. Gupta and Mridula Gupta, 7th International conference INEC 2016, 9th-11th May -2016, Chengdu, China.
<p>Awareness generation programs / exhibitions / seminars, training programmes etc. for teachers/students of other colleges/ students</p>	<p>1. Department of instrumentation organized a workshop on “Spectroscopic and Chromatographic Techniques” on 7th -8th January, 2016 for Food Technology and Biomedical Science students. The students are given lectures on both techniques by experts (Dr. Jasjeet Kaur, Dr. Sadhna Jain and Dr. Daya bhardwaj). They are also trained on latest analytical Instruments viz. UV-Vis Spectrophotometer (Chemito 2500 & Shimadzu UV-1700), Gas Chromatograph (GC Nucon 5200, Shimadzu</p>

	<p>GC-2014).</p> <ol style="list-style-type: none"> 2. Department of Instrumentation of Shaheed Rajguru College of Applied Sciences for Women organized its annual technical fest, Technexus 2015, on 14th October'2015. An invited talk on "Quality control and standardization of Herbals" by Ms. Anubhuti Pasrija, Senior Scientist, Dabur India Ltd was conducted for all the three participating departments under the Star DBT scheme. 3. Department of Instrumentation and Robotics club of Shaheed Rajguru College of Applied Sciences for Women (University of Delhi) in association with IEEE EDS Delhi chapter and Futronix Automation Pvt Ltd, organized one week short course on PLC and SCADA from 25th May 2016-31st May 2016. The event was co-sponsored by IEEE EDS Delhi Chapter and DBT Star College Scheme. It was inaugurated by Prof. Mridula Gupta, Chairperson, IEEE EDS Delhi Chapter and Professor at department of Electronic Science, University of Delhi South Campus. She apprised the students about various activities of IEEE and benefits of becoming student member of IEEE. The resource people for the short course were from Futuronix Automation Pvt. Ltd. Fifty four undergraduate students of B. Sc(H) Instrumentation, B. Tech. Instrumentation and B. Tech. (Electronics) participated in it. The students learnt about basics of PLC and SCADA, ladder logic using NO/NC switches, hardware connection of PLC and software knowledge on programming to work with these automation tools. They were also imparted hands on training on PLC wiring kits and programming. It was a great learning experience for the students. The 7 day short course concluded with the valedictory function in which the students were awarded certificate for the successful completion of the course
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3) GUEST FACULTY INVITED BY DIFFERENT PARTICIPATING DEPARTMENTS

Department of Biomedical Science

Name	Designation	Host Institute	Duration of Visit	Topic of Lecture/Discussion
Dr. Pravat K. Mandal	Scientist, National Brain Research Center	Shaheed Rajguru College	21 st Sept, 2015	Biological and Molecular Aspects of Alzheimer's Disease

Dr. R. Narendhar	Director ARSDI	Shaheed Rajguru College	21 st Sept, 2015	How to deal with a Alzheimer's Disease Patients
Dr. N. K. Bhatia	Director, Mission Jan Jagriti Blood Bank	Shaheed Rajguru College	21 st Sept, 2015	Blood Donation
Dr. B. N. Mallick	Professor, JNU	Shaheed Rajguru College	14 th Oct, 2015	Neural Substrate of Sleep associated to dream
Dr. Beena Sawhni	Directorate General of Health Services, Ministry of Health and Family Welfare, Govt. of India	Shaheed Rajguru College	14 th Oct, 2015	Basics of Neurobiology
Dr. Pradeep Srivastava	Scientist, CDRI Lucknow	Shaheed Rajguru College	12 th Jan, 2016	Nanoscientoons

Department of Food Technology

Name	Designation	Host Institute	Duration of Visit	Topic of Lecture/Discussion
Dr. Arvind Kapoor	CEO, Rasi Seeds Pvt. Ltd., Gurgaon	Shaheed Rajguru College	13 th Oct, 2015	Social protection and agriculture
Dr. T.S.R. Murali	Director R &D, Mother dairy fruits and vegetables Pvt. Ltd.	Shaheed Rajguru College	13 th Oct, 2015	Social protection and agriculture

Department of Instrumentation

Name	Designation	Host Institute	Duration of Visit	Topic of Lecture/Discussion
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Ms. Anubhuti Pasrija	Senior Scientist, Dabur India Ltd	Shaheed Rajguru College	14 th October'2015	Quality control and standardization of Herbals
Professor Mridula Gupta,	Chairperson, IEEE EDS Delhi Chapter and Professor, Department of Electronic Science, University of Delhi South Campus	Shaheed Rajguru College	25 th May'2016	Chief Guest, 7 days workshop on PLC and SCADA
Professor A.L Aggarwal	Regional Environment Management and EIA Expert	Shaheed Rajguru College	25 th May'2016	Guest of Honour, 7 days workshop on PLC and SCADA
Mr. Parvinder Singh,	Project Manager at CORONET Engineer Private Limited	Shaheed Rajguru College	25 th -31 st May'2016	"Industrial Automation"
	Futuronix Automation Pvt Ltd.	Shaheed Rajguru College	25 th -31 st May'2016	"Industrial Automation"

ALL THESE LECTURES WERE ORGANIZED FOR THE STUDENTS OF ENTIRE COLLEGE (~ 800 STUDENTS)

4) LIST OF NEW PRACTICALS/TECHNIQUES/MINOR RESEARCH PROJECTS:

Department of Biomedical Science

- Preparation of Plant extracts in different solvents using Rotary evaporator.
- Qualitative analysis of Phytochemicals present in different plant extracts.
- To study interaction of Ethidium bromide with DNA using UV/Visible spectroscopy.
- Synthesis of silver nanoparticles.

Department of Instrumentation

- To purify samples of different boiling points.
- Thin layer Chromatography(TLC) separation of samples from different origin
- Qualitative and Quantitative analysis of organic compounds using GC
- Qualitative and Quantitative analysis of organic compounds using HPLC
- Distillation of recovered organic solvents after extraction.
- Extraction of residual pesticides from fruits and vegetable samples.
- Estimation of secondary metabolites from medicinal plants.
- Estimation of fatty acids from different oil seed samples.

5) IMPACT OF DBT SUPPORT

- The financial support gave lot of freedom especially for student centric activities, which otherwise is difficult due to budgetary constraints and/or procedural difficulties.
- Now Departments are able to purchase new equipment and contingencies for the designing of biomedical trainer kits.
- Able to provide infrastructural/technical support to researchers/students from the University as well as Schools.

- Increased visibility of the college in Delhi University.

- Boost to research activities. **(15 innovation research projects involving 45 faculty members and 150 students from different departments)**

- This grant has enabled us to maintain a repertoire of sophisticated instruments, which very few colleges of Delhi University have with them.

DBT Star College Report (Year Wise)

3rd Annual Report (April, 2016 – March, 2017)

1. **Name of the College:** Shaheed Rajguru College of Applied Sciences for Women
2. **Status(Govt./ Govt. Aided/ Autonomous/Pvt):** Govt.
3. **Women’s College or Co-educational:** Women’s College
4. **Urban/Rural:** Urban
5. **No. of departments supported:** 03
6. **NAAC Ranking + Year:** ‘A’ Grade, 2016
7. **Details of extramural funding received in the last 3 years (UGC, DBT, DST; duration, period and amount)**

S. No.	Funding Body	Duration (Years)	Amount
1	DST	03 (May,15 to May,18)	23,30,000/-
2	DST	03(April 2017-April 2020)	30,00,000/-

8. List of additional practicals introduced

Department of Biomedical Science:

1. Preparation of Plant extracts in different solvents using Rotary evaporator. (Dr. Manisha Khatri, Dr. Varsha Mehra) B.Sc.(H) Biomedical Science IV sem, Number of students: 30
2. Qualitative analysis of Phytochemicals present in different plant extracts.(Dr. Manisha Khatri, Dr. Varsha Mehra) B.Sc.(H) Biomedical Science IV sem, Number of students: 30
3. To study interaction of Ethidium bromide with DNA using UV/Visible spectroscopy. (Dr. Saquib Ansari) B.Sc.(H) Biomedical Science VI sem, Number of students: 28

Department of Food Technology:

4. Biofermenter design and functioning
5. Isolation of DNA
6. Commercial uses of enzymes
7. Production of wine, yoghurt and sauerkraut
8. Vacuum packaging of foods
9. Identification of plastic and paper packaging materials
10. Bursting strength estimation of various food packaging material

11. Testing of packaged foods
12. Estimation of physical, mechanical and optical properties of packaging material
13. Estimation of water vapour transmission rate of food packaging material

Department of Instrumentation:

14. Thin layer Chromatography (TLC) separation of samples from different origin (Dr. Daya Bhardwaj, B.Sc.(H) Instrumentation IV and VI Semester ; B.Sc.(H) Food Technology IV semester; Number of students: 90).
15. Measurement of efficiency and resolution of GLC column. (Dr. Daya Bhardwaj, B.Sc.(H) Instrumentation IV semester; Number of students: 37).
16. Estimation of sodium content in blood plasma sample using flame photometer. (Dr. Daya Bhardwaj, B.Sc.(H) Instrumentation IV and VI Semester ; B.Sc.(H) BMS IV semester; Number of students: 120).
17. Estimation of total protein in blood plasma using spectrophotometer (Dr. Daya Bhardwaj, B.Sc.(H) Instrumentation IV and VI Semester ; B.Sc.(H) BMS IV semester; Number of students: 120).
18. Qualitative and Quantitative analysis of organic compounds using HPLC (Dr. Daya Bhardwaj, B.Sc.(H) Instrumentation IV and VI Semester ; B.Sc.(H) Food Technology IV semester; Number of students: 90)
19. Distillation of recovered organic solvents after extraction (Performed as a part of sample preparation from plant origin).

9. List of minor projects implemented, name of students and supervisor

S.No.	Title of the Project	Name of Students	Name of Supervisor
1	Design, Synthesis and evaluation of anti-diabetic activity of substituted alkyl carboxylic acid derivatives as GPR40 agonists	<ol style="list-style-type: none"> 1. Priyanka Goyal 2. Diksha Kulshreshtra 3. Ritika Singh 4. Samreen Fatima 5. Diksha Sharma 6. Sheetal Pathania 7. Ronika Vasudeva 8. Divya Singh 9. Silky Doda 10. Sandhya Yadav 	<ol style="list-style-type: none"> 1. Dr. Manisha Khatri 2. Dr. Payal Mago 3. Dr. Deepa Joshi
2	Bioactive component quantification and inhibitory activity of <i>MurrayaKoenigii</i> (Curry leaf) extracts against key enzymes linked to the pathology and	<ol style="list-style-type: none"> 1. Vaishali Sehrawat 2. Aanchal 3. Ritu Goswami 4. Nitisha Singh 5. Nikita Sharma 6. Pranshu Kothari 	<ol style="list-style-type: none"> 1. Dr. Varsha Mehra 2. Dr. Ranjana Singh 3. Ms. Shika Goel

	complications of type 2 diabetes	7. Aparna Jaiswal 8. Nivedita Mehta 9. Himanshu Gaur 10. Namrata Verma	
3.	Transition metal based spinel oxide grapheme nanoribbon composites for removal of pesticides from water	1. Ananya Kher 2. Aayushi Singh 3. Anjali Singh 4. S. Visali 5. Rachita Srivastava 6. Saroj 7. Kajal 8. Richa 9. Shweta 10. Sameeksha	1. Dr. Indu Arora 2. Dr. Parvinder Kaur 3. Ms. Chaynika Verma
4.	Isolation and Characterization of Halotolerant Bacteria from saline soils and study their effect on wheat seedlings	1. S. Visali 2. Simarjot 3. Kajol 4. Deepali 5. Ritu Rai 6. Naaz 7. Alka 8. Radifa 9. Nisha 10. Nitisha	1. Dr. Shruti Banswal 2. Ms. Urmil 3. Ms. Vandana
5	Complexity of Repeat sequences and differential genomes of plant/animal infecting viruses	1. Ritika Bhardwaj 2. Kalyan Shobhna 3. Jyoti 4. Kanchan 5. Sam 6. Shalini 7. Sonam 8. Stuti 9. Shweta 10. Sukriti	1. Dr. Safdar Ali 2. Dr. Saquib Ansari 3. Mr. Deepak
6	Unravelling the genetic basis of acute myloid leukemia (AML)	1. Jayoti 2. Parul 3. Aayushi 4. Shatakshi 5. Sulagna 6. Anusha 7. Parvati 8. Prachi 9. Pratishtha 10. Priyakshi	1. Dr. Radhika Bakhshi 2. Dr. Neha Katyal 3. Ms. Saumya Chaturvedi
7.	Assessment and correlation	1. Anushka Singh	1. Dr. Daya Bhardwaj

	of air quality index of East Delhi region with vital respiratory parameters of college students	<ol style="list-style-type: none"> 2. Charu Khatri 3. Deeksha Agarwal 4. Kanika Juneja 5. Khyati Rai Jain 6. Meenakshi Adhana 7. Pooja Gaur 8. Priyal Mangla 9. Rashi Sharma 10. Smita Gupta 	<ol style="list-style-type: none"> 2. Dr. Jasjeet Kaur 3. Dr. Shuchi Dhingra
8.	Low cost eco-friendly solar inverter a standalone solar power system for households	<ol style="list-style-type: none"> 1. Archana Rajput 2. Ayushi Chopra 3. Diksha Pandey 4. Pratibha Sangam 5. Pratima Kumari 6. Prerna Singh 7. Roopal 8. Smriti Srivastava 9. Shivani Ranjan 10. Vashali Pathak 	<ol style="list-style-type: none"> 1. Dr. Sneha kabra 2. Ms. Himani Dua 3. Ms. Ritika Chopra
9.	Groups based co-ordination for information exchange in ad-hoc networks.	<ol style="list-style-type: none"> 1. Shivani Jain 2. Shreyta Ranjan 3. Chhavi Jain 4. Shivani Digari 5. Himani Kaira 6. Shivani Tiwary 7. Neerajpreet kaur 8. Bhavna Goel 9. Dolly Singh 10. Priya Naib 	<ol style="list-style-type: none"> 1. Dr. Aakanksha 2. Ms. Tina Sachdeva 3. Ms. Neha Garg
10.	Hollow Flashlight applications	<ol style="list-style-type: none"> 1. Kanika 2. Mehak 3. Pinakee 4. Priyal 	<ol style="list-style-type: none"> 1. Ms. Himani Dua 2. Ms. Reshma Sinha
11.	Automated mobile phone charger system with coin detection system using image processing	<ol style="list-style-type: none"> 1. Pratima 2. Rashi 3. Sheetal 4. Smriti 	<ol style="list-style-type: none"> 1. Ms. Nidhi Agarwal 2. Ms. Neha Garg
12.	Quadcopter simulation & motion analysis	<ol style="list-style-type: none"> 1. Akansha 2. Ayushi 3. Charu 	<ol style="list-style-type: none"> 1. Dr. Sneha Kabra 2. Dr. Yogesh Pratap

		<ol style="list-style-type: none"> 4. Khyati 5. Nisha 6. Pooja 	
13.	Development of a 12 lead clinical grade wearable wireless ECG device for monitoring of heart activities.	<ol style="list-style-type: none"> 1. Shreya Varshney 2. Parul Yadav 	<ol style="list-style-type: none"> 1. Dr. Daya Bhardwaj 2. Ms. Reshma Sinha
14.	Ultrasonic sensor based stick for blind	<ol style="list-style-type: none"> 1. Anushka 2. Deeksha 3. Pratibha 4. Prerna 5. Shivani Ranjan 	<ol style="list-style-type: none"> 1. Dr. Sneha Kabra 2. Dr. Yogesh Pratap
15.	Forest Fire detection	<ol style="list-style-type: none"> 1. Varsha 2. Sonali 3. Preeti 	<ol style="list-style-type: none"> 1. Ms. Nidhi Agarwal 2. Ms. Neha Garg
16.	Fighter robot vehicle with night vision camera	<ol style="list-style-type: none"> 1. Archana 2. Mahima 3. Khushboo 4. Chahna 5. Basirat 	<ol style="list-style-type: none"> 1. Ms. Nidhi Agarwal 2. Ms. Himani Dua
17.	Flaxseed bhujiya preparation	<ol style="list-style-type: none"> 1. Harshita Jain 2. Kanika Gaur 3. Anjali Singh 	<ol style="list-style-type: none"> 1. Ms. Chaynika Verma
18.	Polycarbonate ZnO nanocomposite film for smart food packaging	<ol style="list-style-type: none"> 1. Isha Sharma 2. Divya Sharma 	<ol style="list-style-type: none"> 1. Dr. Deepa Joshi 2. Dr. Surinder Pal Singh
19.	Development of intelligent package using oxygen sensitive dye.	<ol style="list-style-type: none"> 1. Shivani Mehla 2. Leeza Chawla 3. Kalpana Yadav 4. Himshikha 	<ol style="list-style-type: none"> 1. Ms. Saumya Chaturvedi
20.	New Product Development of Papaya Tamarind Jam	<ol style="list-style-type: none"> 2. Aashna Chaprana 3. Bhawna Kargeti 4. Meenakshi Tiwari 	<ol style="list-style-type: none"> 1. Ms. Chaynika Verma
21.	Osmotic dehydration of papaya: optimisation and standardisation	<ol style="list-style-type: none"> 1. Anchal Gupta 2. Swati Balani 3. Srishti arora 4. Shruti Jalan 	<ol style="list-style-type: none"> 1. Ms. Saumya Chaturvedi
22.	Antidiabetic and antimicrobial properties of fenugreek seeds	<ol style="list-style-type: none"> 1. Sinni Mishra 2. Neetu Rajput 3. Shruti 4. Namrata 	<ol style="list-style-type: none"> 1. Dr. Deepa Joshi

		5. Himanshu	
23.	Irradiation of strawberries and subsequent shelf life analysis	1. Athira Menon 2. Anjali Shrama	1. Dr. Deepa Joshi
24.	Development of edible coating for minimally processed potatoes	1. Ayesha Siddiquie 2. Kashish Saxena 3. Kritika Shama 4. Ritika	1. Ms. Chaynika Verma

10. Faculty improvement activities such as training courses, seminars etc conducted and their impact

1) Department of Instrumentation and Robotics club of Shaheed Rajguru College of Applied Sciences for Women (University of Delhi) in association with IEEE EDS Delhi chapter and Futronix Automation Pvt Ltd, organized one week short course on PLC and SCADA from 25th May 2016-31st May 2016 for students of Electronics, Physics and Computer Science department.

2) Department of Instrumentation of Shaheed Rajguru College of Applied Sciences for Women organized a seminar on Virtual Instrumentation on 07th September, 2016 that included following session: Virtual Instrumentation Using NI LabVIEW, Real time Data Acquisition and recording Using NI LabVIEW, NI LabVIEW in the field of communication and Control application using NI LabVIEW

3) The Department of Instrumentation in collaboration with Department of Electronics also organized the 2nd National conference on Recent Trends in Instrumentation and Electronics (RTIE-2016) on 5th and 6th October, 2016. This conference was supported by IEEE EDS Delhi Chapter. The conference was co-sponsored by UGC, DBT Star College Scheme, and Tipzin. It was inaugurated by Guest of Honor, Prof. M Jagadesh Kumar, Vice- Chancellor, Jawaharlal Nehru University. Invited talks were delivered by eminent academicians and people from various industries.

4) Department of Instrumentation of Shaheed Rajguru College of Applied Sciences for Women organized its annual technical fest, Technexus 2k16, on 20th October'2016.

5) Two day workshop on “Drug Discovery Technologies” was conducted by Department of Biomedical Science from 12th – 13th January, 2017.

6) Department of Instrumentation in collaboration with IEEE-EDS Delhi Chapter organized IEEE-EDS Distinguished Lecturer Talk on “CMOS Transistors - Operation, Scaling, Reliability and Way Forward on 23rd January 2017” by Prof. Souvik Mahapatra from Department of Electrical Engineering IIT Bombay. The lecture had participation of around two hundred Students and Faculty Members from different colleges of Delhi University.

7) The Department of Biomedical Science, organized second National Conference on “Understanding the Mechanism and Challenges of Complex diseases (UMCCD-2017)” on 24th to 25th January, 2017.

8) Department of Instrumentation has organized a talk cum placement drive on “Evolution in Modern Technologies” on 14th Feb, 2017. The seminar was attended by final year students of Instrumentation, Electronics and computer science departments along with 2nd and 1st year students of Instrumentation department. The talk was delivered by Mr. Rajeev Tiwari, Director, Tevatron Technologies, where he talked about recent development in the field of automation, robotics, related technologies and related skill sets.

9) Department of Instrumentation has organized a one month Short Term Program on AVR microcontroller from 24th March to 22nd April 2017 in association with Tevatron Technologies Pvt. Ltd.

11. Outreach activities conducted and their impact/ follow-up

1. A short-term training course was conducted for ~30 M.Sc. students (Forensic Science). The students were trained on various sophisticated instruments.
2. A short visit of ~50 students from a school was arranged. The students were apprised about the new techniques, sophisticated instruments and were promoted to take up science for further studies.
3. English remedial classes were organized for students.
4. Tree Plantation Drive and Tree Adaptation by the students.
5. Computer Literacy Programme: A Collaborative initiative of the College and Galaxy Classes / Manav Ujjwal Samaj Samiti for the people of underprivileged section of the society.
6. Digital Empowerment for Homemakers (DEH) programme in association with Sakhi Saheli, an active NGO working for women welfare and empowerment in Vasundhara Enclave. The objectives of this initiative are to digitally literate non working women of all age groups and enable them to acquire basic ICT skills.
7. Vitiya Saksharta Abhiyan: A two days workshop on cashless transaction in support of digital India initiative. The motive of workshop was to make the college staff members familiar about cashless transaction modes and showcase it with real time examples.
8. Miscellaneous outreach activities organized by the college in collaboration with NSS.

1. Swachhta Abhiyan
2. Matdata Month
3. Plastic Collection drive
4. Collection of Stationary

5. Old Age Home/Orphanage Visit
6. Literacy drive
7. Vermicomposting
8. IRSC (Indian Road Safety Campaign) Orientation
9. Quiz on Road Safety
10. Self Defence Camp
11. HIV/AIDS Seminar
12. Vittiya Saksherta Abhiyan/workshop
13. National Youth Forum on Drug Use Prevention
14. Mental Health Awareness Seminar
15. Workshop on Disaster Management
16. Talk on PCOD (Polycystic Ovarian Disease)
17. Kids Talent Hunt
18. Swachata Pakhwara

9. **Any outstanding achievement by student/faculty (merit, award, research paper, presentation in national/international conference/ etc; full citation to be provided)**

Dr. Varsha Mehra, Assistant Professor, Department of Biomedical Science

1. Published a review article entitled “Trials and Tribulations of Tuberculosis Research: Can Plant Based Drug(s) be the solution?” Smita Mishra, Manisha Khatri and Varsha Mehra. *Chem. Biol. Lett.* 2017, 4(1), 33-47

2. Conducted two day hands- on training on “PCR and its applications” for M.Sc. Anthropology students as part of a weeklong training session undertaken by the college (18-19th February 2016).
3. Presented a research article “Plant Based Approach: Achilles Heel in Tuberculosis Treatment” in the National Conference on Advances in Food Science and Technology (NCAFST-2016), (16th -17th March 2016)
4. Presented a paper entitled “Synergistic and antibacterial potential and total bioactive component determination of *elletaria cardamomum*, *piper nigrum* and *aromaticum syzygium*” at the 13th World Biotechnology Congress at San Francisco, USA (27-30th November 2016).

Dr. Indu Arora, Assistant Professor, Department of Biomedical Science

1. Published a paper entitled Samim, Mohammed, Mohammad Anwar, Deepak Yadav, Swati Jain, Sumeet Kapoor, Indu Arora, and Shweta Rastogi. "Size- and Shape-dependent Clinical and Mycological Efficacy of Silver Nanoparticles on Dandruff." *International Journal of Nanomedicine IJN*, 2016, 147. *Impact Factor 4.3*
2. Conducted two day hands- on training on “Preparation of Buffers and Solution of Various Strengths” for M.Sc. Anthropology students as part of a week, long training session undertaken by the college (18-19th February 2016).

3. Done one week workshop in “Teaching Methods (3-11th march 2016) organised by CPDHE, University of Delhi.
4. Presented a poster entitled “Size dependent efficacy study of silver nanoparticles against food spoiling microbes” in conference Advances in Food Sciences and Technology (NCAFST march 2016) organised by Department of Food Technology, Shaheed Rajguru College of Applied Sciences for Women.
5. Presented a poster entitled “Transition metal based spinel oxide-graphene nanoribbon composites for removal of pesticide from water” in UGC-sponsored National Conference in Chemistry Environment & Harmonious Development (NCC-2016) 7-8 April, 2016 Department Of Chemistry, Shyam Lal College, University Of Delhi

Dr. Manisha Khatri, Assistant Professor, Department of Biomedical Science

1. Published a review article entitled “Trials and Tribulations of Tuberculosis Research: Can Plant Based Drug(s) be the solution?” Smita Mishra, **Manisha Khatri** and Varsha Mehra. Chem. Biol. Lett. 2017, 4(1), 33-47
2. Organized two day training in “Drug Discovery Technologies - Computational Approaches in Drug Discovery and Design” at Shaheed Rajguru College (12th – 13th January, 2017)
3. Presented a poster entitled “Design, Synthesis and Evaluation of antidiabetic activity of new substituted alkyl carboxylic acid derivatives” in the 8th International symposium on Current trends in Pharmaceutical Sciences: Advances in New Drug Discovery and Development organized by Zydus Cadila, Ahemdabad, Gujrat (2nd – 4th February, 2017)
4. Conducted two day hands- on training on “ELISA techniques” for M.Sc. Anthropology students as part of a weeklong training session undertaken by the college (20th -21st February, 2016).
5. Published a research article entitled “*Plant Based Approach: Achilles Heel in Tuberculosis Treatment*” in the proceedings of National Conference on Advances in Food Science and Technology (NCAFST-2016), (16th -17th March 2016)

Dr. Safdar Ali, Assistant Professor, Department of Biomedical Science

1. Published following paper as corresponding author CM Alam, A Iqbal, B Thadari, *Safdar Ali* (2016) Imex Based Analysis of Repeat Sequences in Flavivirus Genomes, Including Dengue Virus. *J Data Mining in Genomics and Proteomics* 7:1. ISSN 2153-0602. DOI:10.4172/2153-0602.1000187
2. Successfully completed the orientation program for Coordinator, 13th National Youth Parliament, on 4-5 January 2016 at Shillong organized by Ministry of Parliamentary Affairs, Govt of India.

Dr. Daya Bhardwaj, Assistant Professor(Stage 2), Department of Instrumentation

1. Presented the paper “Comparison of analytical methods in combination with multivariate techniques for the quality assessment of raw material and formulations containing B.

aristata and its related species” in 2nd International symposium on Plants and Microbial products (ISNPMP 2016) organized at IHC Delhi from March 1-2, 2016

2. Completed the project “Assessment and correlation of air quality index of East Delhi region with vital respiratory parameters of college students” by University of Delhi.
3. Attended training program on “Ambient Air Quality Monitoring” at Air Laboratory, CPCB, Delhi from May 5- May 9, 2016.
4. Presented the poster entitled “Assessment and correlation of air quality index of East Delhi region with vital respiratory parameters of college students” in the National Conference (CIPSE-2016) organized by Gargi College (University of Delhi) from September 22-23, 2016 in Delhi, India.
5. Participated in one week short term course on Artificial Intelligence in Engineering Application organized by NSIT from December 26-30, 2016 in Delhi, India.
6. Organized National conference on Recent Trends in Instrumentation and Electronics (RTIE 2016) organized by SRCASW from Oct. 5-6, 2016.

Dr. Sneha Kabra, Assistant Professor, Department of Instrumentation

1. Presented a poster on “Low cost eco friendly Solar Inverter - A standalone solar power system for households” at Vice Regal Lodge, Delhi University on 1st May 2016.
2. Organized and participated in 7 days short course on PLC and SCADA from 25th May 2016 to 31st May 2016, organized by SRCASW in association with IEEE EDS Delhi Chapter.
3. Presented a paper titled “Low cost eco-friendly solar inverter a standalone solar power system for households” in a national conference on “Recent trends in Instrumentation and Electronics”, (RTIE-2016) from Oct’5-6, 2016, Shaheed Rajguru College of Applied Sciences for Women.
4. Presented a paper titled “A review on the Eye Stick: Boon to Visually Impaired” in an International Conference on Advances in Nanomaterials and Nanotechnology (ICAN 2016) 4th - 5th November 2016, Centre for NanoScience and Nanotechnology, Jamia Milia Islamia.
5. Attended IEEE-EDS Distinguished Lecturer Talk on Negative Bias Temperature Instability in HKMG MOSFETs - Characterization, Process Dependence, DC / AC Modeling, TCAD Implementation and Stochastic Effects by Prof. Souvik Mahapatra, (Department of Electrical Engineering, IIT Bombay, Mumbai) on November 10, 2016 organised by IEEE EDS Delhi Chapter.
6. Attended IEEE-EDS Distinguished Lecturer Talk On “Publish and Flourish Art, Craft, and Sportsmanship of Publishing in Scholarly Journals” by Professor Vijay K Arora, Wilkes University USA organized jointly by by IEEE EDS Delhi Chapter and Department of Electronic Science University of Delhi on 13 January 2017.
7. Presented a paper titled “Analog Characteristics and Linearity Analysis of Gate-All-Around Junctionless Nanowire Transistor (JNT) under wide Operating Temperature Ranging from 200K to 500K” in a national conference on Recent developments in Electronics, (NCRDE 2017), Feb. 17-18, 2017 organized by IEEE EDS Delhi Chapter and Department of Electronic Science, University of Delhi.

8. Attended one day workshop on “Modeling & Simulation Techniques for Advance Semiconductor Devices” organized by IEEE-EDS Delhi Chapter in association with Tech Next Lab Private Limited, Lucknow on 18th July 2017 at UDSC.
9. Attended IEEE-EDS Distinguished Lecturer Talk On Statistical analysis of Reliability test data by Prof. Cher Ming Tan, Chang Gung University on 11th August 2017 at UDSC.
10. Completed Innovation project SRCASW316 sanctioned by Delhi University, entitled “Low cost eco-friendly solar inverter a standalone solar power system for households”.
11. Research Project entitled “Modeling, Simulation and development of AlGaIn/GaN HEMT based lactic acid and Uric acid biosensor for clinical research” has been approved by SERB (DST) for funding.
12. Attended IEEE-EDS Distinguished Lecturer Talk On “Publish and Flourish Art, Craft, and Sportsmanship of Publishing in Scholarly Journals” by Professor Vijay K Arora, Wilkes University USA organized jointly by IEEE EDS Delhi Chapter and Department of Electronic Science University of Delhi on 13 January 2017.
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15. Attended IEEE-EDS Distinguished Lecturer Talk On Statistical analysis of Reliability test data by Prof. Cher Ming Tan, Chang Gung University on 11th August 2017 at UDSC
16. Organized and attended 7days short course on PLC and SCADA from 25th-31st May 2016 It was organized in collaboration with Futuronix Pvt Ltd
17. Participated in invited talk on Virtual Instrumentation held on 7th September 2016.
18. Attended IEEE-EDS Distinguished Lecturer Talk On Negative Bias Temperature Instability in HKMG MOSFETs - Characterization, Process Dependence, DC / AC Modeling, TCAD Implementation and Stochastic Effects by Prof. Souvik Mahapatra, (Department of Electrical Engineering, IIT Bombay, Mumbai) on November 10, 2016 organized by IEEE EDS Delhi Chapter.
19. Attended and Organized UGC and IEEE EDS Delhi Chapter sponsored Second National conference on Recent Trends in Instrumentation and Electronics (RTIE-2016).
20. Attended IEEE-EDS Distinguished Lecturer Talk On “Publish and Flourish Art, Craft, and Sportsmanship of Publishing in Scholarly Journals” by Professor Vijay K Arora, Wilkes University USA organized jointly by IEEE EDS Delhi Chapter and Department of Electronic Science University of Delhi on 13 January 2017.
21. Attended and Organized IEEE-EDS Distinguished Lecturer Talk On “CMOS Transistors -Operation, Scaling, Reliability and Way Forward” by Prof. Souvik Mahapatra, (Department of Electrical Engineering, IIT Bombay, Mumbai) on January 23, 2017 organised by IEEE EDS Delhi Chapter and SRCASW.
22. Attended and Organised Second National conference on Recent developments in Electronics, (NCRDE 2017), feb 17-18, 2017 held at Department of Electronics, University of Delhi, New Delhi

Ms. Himani Dua, Assistant Professor, Department of Instrumentation

1. Organized 7-day short course on PLC and SCADA from 25th-31st May 2016. It was organized in collaboration with Futuronix Private Limited.
2. Presented a paper “A review paper on Hollow flashlight: Thermoelectrically powered torch” in national conference RTIE organized by Shaheed Rajguru College of Applied Sciences, University of Delhi on 5th & 6th October 2016.
3. Presented a paper “Low cost eco friendly solar inverter- A standalone solar power system for households” in national conference RTIE organized by Shaheed Rajguru College of Applied Sciences, University of Delhi on 5th& 6th October 2016
4. Presented a paper “Hollow flashlight: Thermoelectrically powered torch” in national conference NCRDE organized by Department of Electronic Science, University of Delhi on 16th, 17th& 18th February 2017.
5. Completed and submitted the innovation project on Low cost eco friendly solar inverter- A standalone solar power system for households in year 2016.
6. Poster presentation on “Low cost eco friendly Solar Inverter — A standalone solar power system for households” at Vice Regal Lodge, Delhi University on 1st May 2016. (Archana Rajput, Ayushi Chopra, Diksha Pandey, Pratima Kumari, Roopal, Smriti Srivastava, Vaishali Pathak, Sneha Kabra, Himani Dua, Ms Ritika Chopra)

Ms.Neha Garg, Assistant Professor, Department of Instrumentation

1. Completed and submitted the innovation project on Groups based co-ordination for information exchange in ad-hoc networks in 2016.
2. Attended and Organized UGC and IEEE EDS Delhi Chapter sponsored Second National conference on Recent Trends in Instrumentation and Electronics (RTIE-2016).
3. Attended and Organized IEEE-EDS Distinguished Lecturer Talk On “CMOS Transistors -Operation, Scaling, Reliability and Way Forward” by Prof. Souvik Mahapatra, (Department of Electrical Engineering, IIT Bombay, Mumbai) on January 23, 2017 Organized by IEEE EDS Delhi Chapter and SRCASW

Mr. Yogesh Pratap, Assistant Professor, Department of Instrumentation

1. Participated in *Hands on Training* on Nanotechnology Fabrication in IIT Bombay from 4 June 2016 to 11 June 2016.
2. Research Paper resented in 7th International conference INEC 2016, 9th-11th May -2016, Chengdu, China.
3. Faculty Coordinator of workshop on PLC SCADA 2016, Organized by Deptt. Of Instrumentation, Shaheed Rajguru College of Applied Science for Women, University of Delhi, New Delhi, India.
4. Faculty Coordinator of Robotics workshop 2016, Organized by Shaheed Rajguru College of Applied Science for Women, University of Delhi, New Delhi, India.
5. Attended one Day Short Course On Quantum Transport in Carbon-Based Devices organized by Dept. of Electronics, University of Delhi South Campus, New Delhi – 110021 on January 13, 2016.

6. Attended IEEE Distinguished Lecture on Creating a Perfect Dielectric-Semiconductor Interface with High-k Gate Dielectrics for sub-14nm CMOS Technology organized by Dept. of Electronics, *University of Delhi South Campus, New Delhi – 110021* On January 8, 2016.
7. Attended IEEE EDS Distinguished Lecture on Outlook and Challenges of Electrostatic Discharge (ESD) Protection of Modern and Future Integrated Circuits organized by Dept. of Electronics, University of Delhi South Campus, New Delhi – 110021 on 14th December, 2015.
8. Published in refereed International journals “Physics-Based Drain Current Modeling of Gate- All-Around Junctionless Nanowire Twin-Gate Transistor (JN-TGT) for Digital Applications,” *Journal of Computational Electronics*, (Accepted), 2016.
9. Published in refereed International journals “Gate Material Engineered Junctionless Nanowire Transistor (JNT) with Vacuum Gate Dielectric for Enhanced Hot Carrier Reliability,” *IEEE Tran. on Device and Material Reliability*, (Accepted), 2016.
10. Published in International Conferences “Sensitivity Investigation of Gate-All-Around Junction less Transistor for Hydrogen Gas Detection,” Yogesh Pratap, Manoj Kumar, S. Haldar, Mridula Gupta, R. S. Gupta, 7th International conference INEC 2016, 9th - 11th May -2016, Chengdu, China.
11. Published in International Conferences “DMG Insulated Shallow Extension Cylindrical GAA Schottky Barrier MOSFET for Removal of Ambipolarity: A Novel Approach,” Manoj Kumar, Yogesh Pratap, S. Haldar, R. S. Gupta and Mridula Gupta, 7th International conference INEC 2016, 9th-11th May -2016, Chengdu, China.
12. A review on the Eye Stick: Boon to Visually Impaired, Anushka Singh, Deeksha Agarwal, Pratibha Sangam, Prerna Singh, Shivani Ranjan, Yogesh Pratap, Sneha Kabra International Conference at Shaheed Rajguru College of Applied Sciences for Women, Delhi Advances in Nanomaterials and Nanotechnology (ICAN 2016) 4th and 5th November 2016, Centre for NanoScience and Nanotechnology, Jamia Millia Islamia.
13. Gaussian Graded Channel (GGC) Schottky Barrier Surrounding Gate MOSFET for Analog/RF Performance Enhancement, Manoj Kumar, Yogesh Pratap, Subhasis Haldar, R. S. Gupta and Mridula Gupta, International Conference on Advances in Nanomaterials and Nanotechnology (ICAN 2016) 4th and 5th November 2016, Centre for NanoScience and Nanotechnology, Jamia Millia Islamia.
14. Analog Characteristics and Linearity Analysis of Gate-All-Around Junctionless Nanowire Transistor (JNT) under wide Operating Temperature Ranging from 200K to 500K, Yogesh Pratap, J.H.K. Verma, Sneha Kabra, Subhasis Haldar, R. S. Gupta and Mridula Gupta, National conference on Recent developments in Electronics, (NCRDE 2017), feb 17-18, 2017 organised by IEEE EDS Delhi Chapter and Department of Electronic Science, University of Delhi.
15. Analog/RF Performance of Cylindrical Surrounding Double Gate (CSDG) MOSFET, J.H.K. Verma, Yogesh Pratap, Sneha Kabra, Subhasis Haldar, R. S. Gupta and Mridula Gupta, National conference on Recent developments in Electronics, (NCRDE 2017), feb 17-18, 2017 organised by IEEE EDS Delhi Chapter and Department of Electronic Science, University of Delhi. Workshops/ Seminars Organized/Attended :
16. Participated in invited talk on Virtual Instrumentation held on 7th September 2016.
17. Attended and Organised UGC and IEEE EDS Delhi Chapter sponsored Second National conference on Recent Trends in Instrumentation and Electronics (RTIE-2016).

18. Attended IEEE-EDS Distinguished Lecturer Talk On Negative Bias Temperature Instability in HKMG MOSFETs - Characterization, Process Dependence, DC / AC Modeling, TCAD Implementation and Stochastic Effects by Prof. Souvik Mahapatra, (Department of Electrical Engineering, IIT Bombay, Mumbai) on November 10, 2016 organised by IEEE EDS Delhi Chapter
19. Attended IEEE-EDS Distinguished Lecturer Talk On “Publish and Flourish Art, Craft, and Sportsmanship of Publishing in Scholarly Journals” by Professor Vijay K Arora, Wilkes University USA organized jointly by IEEE EDS Delhi Chapter and Department of Electronic Science University of Delhi on 13 January 2017
20. Attended and Organized IEEE-EDS Distinguished Lecturer Talk On “CMOS Transistors -Operation, Scaling, Reliability and Way Forward” by Prof. Souvik Mahapatra, (Department of Electrical Engineering, IIT Bombay, Mumbai) on January 23, 2017 organized by IEEE EDS Delhi Chapter and SRCASW.
21. Attended and Organized Second National conference on Recent developments in Electronics, (NCRDE 2017), Feb 17-18, 2017 held at Dept. of Electronics, University of Delhi South Campus, New Delhi.

Ms .Reshma Sinha, Assistant Professor, Department of Instrumentation

1. Presented a paper “A review paper on Hollow flashlight: Thermoelectrically powered torch” in national conference RTIE organized by Shaheed Rajguru College of Applied Sciences, University of Delhi on 5th & 6th October 2016.
2. Attended and Organised UGC and IEEE EDS Delhi Chapter sponsored Second National conference on Recent Trends in Instrumentation and Electronics (RTIE-2016).
3. Presented a paper “Hollow flashlight: Thermoelectrically powered torch” in National Conference NCRDE organized by Department of Electronic Science, University of Delhi on 16th, 17th & 18th February 2017.
4. Attended and Organised IEEE-EDS Distinguished Lecturer Talk On “CMOS Transistors -Operation, Scaling, Reliability and Way Forward” by Prof. Souvik Mahapatra, (Department of Electrical Engineering, IIT Bombay, Mumbai) on January 23, 2017 organised by IEEE EDS Delhi Chapter and SRCASW.

Ms. Nidhi Agrawal, Assistant Professor ,Department of Instrumentation

1. Participated and conducted lectures during, five days hands–on workshop on “Builds My Smart Phone” for faculty at NITTR, Chandigarh held during 16-20 May 2016, in association with IGDTUW, Delhi
2. Member of organizing committee and conducted lectures during 7th Summer Training Program on “Build Your Own IoT Enabled Smart Device”, held at IGDTUW during 6 June to 15 July 2016
3. Member of organizing committee of Mobility Research Forum and IGDTUW sponsored First National conference on Product Designing (NCPD-2016) held at MSRIT, Bengaluru during 2- 3rd July, 2016.
4. Presented a paper titled “LCSHAS: Low Cost Smart Home Automation Systems based on ARM processor” at National conference on Product Designing, held at MSRIT, Bengaluru during 2-3rd July, 2016. Member of organizing committee of UGC and IEEE EDS Delhi Chapter sponsored Second National conference on Recent Trends in

Instrumentation and Electronics (RTIE-2016) sponsored by UGC and IEEE EDS Delhi Chapter on 5th & 6th October 2016.

Ms. Sonal Singh, Assistant Professor, Department of Instrumentation

1. Presented a Paper titled "Nitrogen-doped ZnO coupled with BiVO₄ with high Zn interstitial defects and enhanced surface area for enhanced photocatalytic dye degradation activity" at 4th International Conference on Nanoscience and Nanotechnology (ICONN-2017) held at SRM University, Chennai during August, 9-11, 2017.

Ms. Sarul Malik, Assistant Professor, Department of Instrumentation

1. Presented a poster entitled "Non Invasive Platform to Estimate Fasting Blood Glucose using Saliva" in the IIT Delhi Industry Day held on 23rd September, 2017, Lecture Hall Complex, IIT Delhi

Ms. Sweta Arya, Mr. Tofiq Ali, Mr. Bhuvan Bhatt and Mr. Ashok Roy of Department of Instrumentation and Department of Chemistry

1. Attended training program on "Ambient Air Quality Monitoring" at Air Laboratory, CPCB, Delhi from May 5- May 9, 2016.
- 2.

Ms. Isha Kaushik, Assistant Professor, Department of Food Technology

1. Delivered oral presentation at National Conference on Food Processing India on 3rd-4th March' 2017 at GJU, Hisar.

Dr. Heena Lamba, Assistant Professor, Department of Food Technology

1. presented poster at XXV Indian Convention of Food Scientists & Technologists (ICFOST): Food processing for Sustainable Agriculture and Industry on 10th-12th November, 2016 at GNDU, Amritsar.

Ms. Savitri Gupta and Sh. Vijay Nandan, Supporting Staff Department of Food Technology

1. Completed 10 day certificate course on 'Office Performance Skills' conducted by Shaheed Rajguru College of Applied Sciences for Women.
2. completed 2 day certificate course on 'Stress Management' at Directorate of Training, UT Civil Services from 22nd-23rd Dec' 2016 and 1 day certificate course on consumer rights at Directorate of Training, UT Civil Services on 13th May' 2016.

Dr. Deepa Joshi, Associate Professor, Department of Food Technology

1. Presented a poster entitled "Size dependent efficacy of silver Nano particles against food spoilage microbes" in National Seminar on Biomedical Engineering, Food & Fermentation Technology March 28, 2017 at Jamia Hamdard University, New Delhi.

Ms. Para Dholakia, Assistant Professor, Department of Food Technology

1. Para Dholakia, Deepali Bajaj, Asha Yadav, Disha Gupta, Kaavya Raveendran, Lavika Singh and Mansi Manchanda 2017. Mobile application to track nutritional intake-a smart step towards nutritional security through m-health', in the conference proceedings of World congress on Disease, Health and Society: Issues, challenge, 20th May, 2017, Page- 15-19, ISBN no. - 9789385822513, Krishi Sanskriti Publications, Delhi
2. Deepali Bajaj, Asha Yadav, Para Dholakia, Bhawna Jain, Deeksha Sharma, Diksha Tewari, Dinika Saxena, Disha Sahni, Preetanjali Ray 2017. Android based nutritional intake tracking application for hand-held systems,Conference Proceedings of 8th International Conference on computing, Communication And Networking Technology (ICCCNT) IEEE conference held in IIT Delhi, India on 3-5th July 2017, Page 589-591, IEEE Catalog Number:CFP1752J-ART , ISBN: 978-1-5090-3038-5

Ms. Saumya Chaturvedi, Assistant Professor, Department of Food Technology

1. Presented a poster on “Osmotic dehydration of papaya: optimization and standardisation” at National Seminar on Biomedical Engineering, Food & Fermentation Technology March 28, 2017at Jamia Hamdard University, New Delhi.
2. Ms Saumya Chaturvedi and Ms Shikha Goel attended the National Seminar on Biomedical Engineering, Food & Fermentation Technology March 28, 2017at Jamia Hamdard University, New Delhi.
3. **Ms. Saumya chaturvedi** has communicated two chapters under Springer Publications.

1. “Optimisation of process parameters for osmotic dehydration of apples slices”
2. “Exploitation and utilization of unmarketable (Grade D) potatoes from local Delhi markets for preparation of custard powder with different flavours”

Ms. Prabhjot Kaur, Assistant Professor, Department of Food Technology

1. Published paper entitled “Preparation of edible coatings and to study their effect on shelf life of green vegetables”, International Journal of Basic and Applied Biology, 4 (4), July-September 2017; 181-187.
2. **Ms. Prabhjot Kaur Sabharwal, Ms. Vandana Arya, Ms. Chaynika Verma** has communicated chapter on “Street Foods- Safety and Potential” under Springer Publications.

Ms. Vandana Arya, Assistant Professor, Department of Food Technology

1. **Ms. Vandana Arya, Ms. Chaynika Verma and Ms. Prabhjot Kaur Sabharwal** has communicated chapter on “Traditional Foods-The inheritance for good health” under Springer Publications.

Ms. Shikha Goel, Assistant Professor, Department of Food Technology

1. Ms. Shikha Goel has communicated chapter on “Fruit Waste: Potential as a functional ingredient in foods” under Springer Publications.

2. Published an abstract on Miracle Berry: a Sweet Fix for Our Palate, in National Conference on “Food Processing India 2017” in National Conference on “Food Processing India 2017” organized by Guru Jambheshwar University, Hisar.
3. Published an abstract on Chemesthesis: the chemical sense, in National Conference on “Food Processing India 2017” in National Conference on “Food Processing India 2017” organized by Guru Jambheshwar University, Hisar

Students Achievements:

1. Ms. Kritika Aggarwal, of B.Sc Food Technology was awarded with Silver Medal & Certificate by the 'Italian Technical Services Food Safety Silver Medal' for the year 2015 and given during 72nd the Annual Conference of AIFPA on 15th December, 2016.
2. 2 students secured first position in National Nutrition Week organized by Manav Rachna International University on 7th September, 2016.
3. Two Students from B.Tech Instrumentation Presented a paper “Hollow flashlight: Thermoelectrically powered torch” in National Conference NCRDE organized by Department of Electronic Science, University of Delhi on 16th, 17th & 18th February 2017
4. Two Students from B.Tech Instrumentation Presented a paper “Eye Stick: Boon to Visually Impaired” in National Conference NCRDE organized by Department of Electronic Science, University of Delhi on 16th, 17th & 18th February 2017.
5. Ms. Ritika Singh and Ms. Meghna Thiruvadi of B.Sc.(H) Biomedical Science 3rd year participated in Debate competition on “ Herbal Medicines: organized by Department of Botany.

10. List of Short term training courses/workshops conducted for students and faculty, including title, duration, no. of beneficiaries

- **One** B. Pharma Student from DIPSAR underwent summer training in the Department of Biomedical Science and working on a project entitled “Isolation of active constituents of *Adhatoda vasica* plant parts using chromatographic techniques”.
- **One** undergraduate student from SRM University, Chennai underwent four weeks training in the project entitled “Antidiabetic activity of *Murraya koeingi* leaves extracts”.
- **40** M.Sc. Forensic Science students underwent seven days hands on training on different bioanalytical techniques from 18th Feb to 23rd Feb 2016.
- A group of 10 Class X students from AMITY International School, Mayur Vihar has executed a project entitled “Effect of storage container on the portability of water”. They have analyzed various like organomatric (Color), Physical (TSS, TDS, Temperature etc), chemical (pH), biological (presence of coliforms) using different instruments as per BIS specifications. The project was completed successfully. The result showed significant change in all the properties of potable water.
- Two students from Amity University has done 2 months dissertation on the project entitled “Role of genes and enzymes in lung and breast cancer”.

11. Guest Lectures (details like name of scientist, topic, no. of students)

All lectures are arranged for three participating departments and some for the entire college.

Name	Designation	Host Institute	Duration of Visit	Topic of Lecture/Discussion
Professor Mridula Gupta	Chairperson, IEEE EDS Delhi Chapter and Professor, Department of Electronic Science, University of Delhi South Campus	Shaheed Rajguru College	25 th May'2016	Chief Guest, 7 days workshop on PLC and SCADA
Professor A.L Aggarwal	Regional Environment Management and EIA Expert	Shaheed Rajguru College	25 th May'2016	Guest of Honour, 7 days workshop on PLC and SCADA
Mr. Parvinder Singh	Project Manager at CORONET Engineer Private Limited	Shaheed Rajguru College	25 th -31 st May'2016	"Industrial Automation"
Prof Souvik Mahapatra (Distinguished Lecturer)	Professor (Department of Electrical Engineering, IIT Bombay)	Shaheed Rajguru College	23 rd January 2017	DL talk - "CMOS Transistors - Operation, Scaling, Reliability and Way Forward"
Mr. Asif Naqvi	CEO Biodiscovery Group	Shaheed Rajguru College	12 th January, 2017	Drug Discovery and Bioinformatics
Dr. Kanury S Rao	Director, THSTI	Shaheed Rajguru College	25 th January, 2017	Challenges and solutions in TB
Dr. Devesh Bhardwaj	Mankind Research Center	Shaheed Rajguru College	25 th January, 2017	Biosimiliars
Mr. Rajeev Tiwari	Director, Tevatron Technologies,	Shaheed Rajguru College	14 th February 2017	"Evolution in Modern Technologies"

12. Visits to industries, institutes etc (name of place, duration of visit and no. of students)

S. No.	Name of Institute/Industry	Duration of visit	Number of students
1.	Regional Center for Biotechnology	03/02/16	75

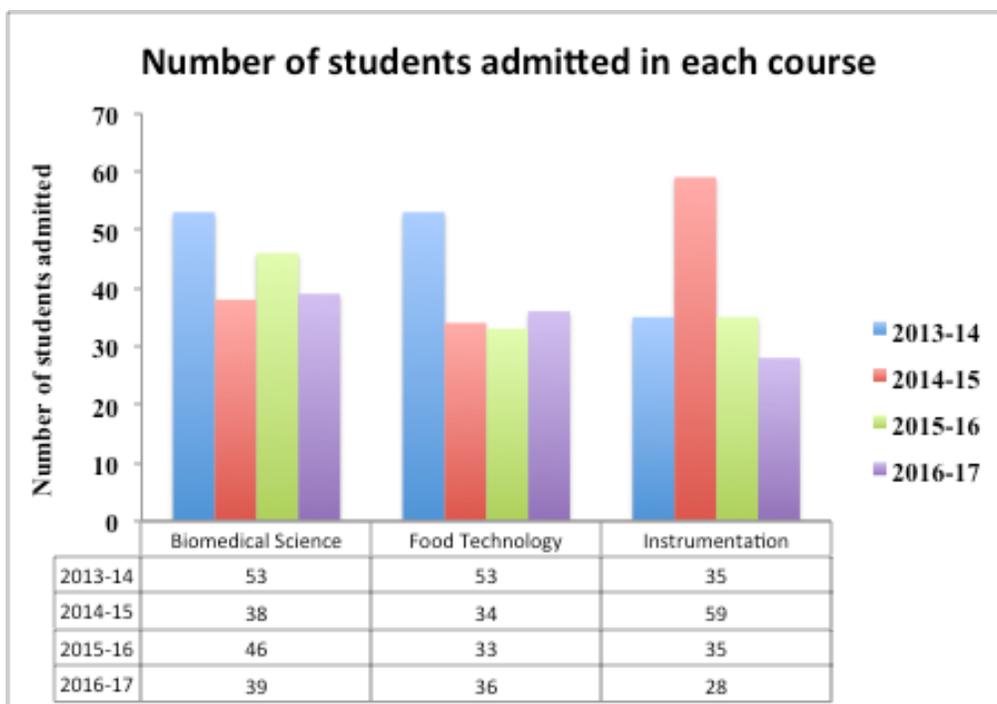
	(RCB), Faridabad		
2.	Central Scientific Instruments Organization (CSIO), Chandigarh	14/04/16 to 15/04/16	65
3.	Dabur Research Foundation, Sahibabad	10/04/16	32
4.	National Brain Research Center, Manesar	28/03/17	30
5.	Haldirams Snacks Private Limited	07/11/16	45
6.	Fare Lab Pvt. Ltd.	24/10/16	30

13. Any special innovative approach adopted by the college in improving the UG education

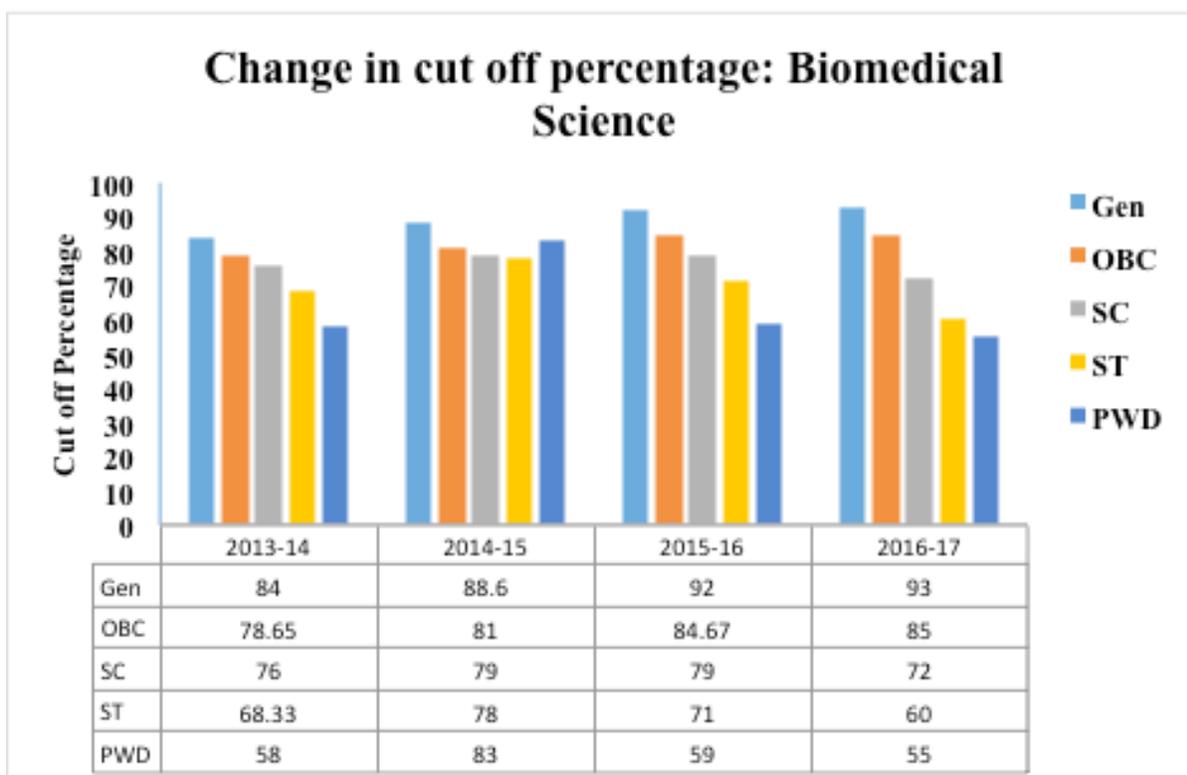
- Industrial visits in/around and outside Delhi
- Individual and Group projects based on new product development, new process development and surveys
- Conferences/workshops/Interactive Sessions organized for students
- Participation of students in government schemes like “Surakshit Khadya Abhiyan”, “Ek bharat Shreshtha Bharat“ etc.

18. Impact of DBT Support:

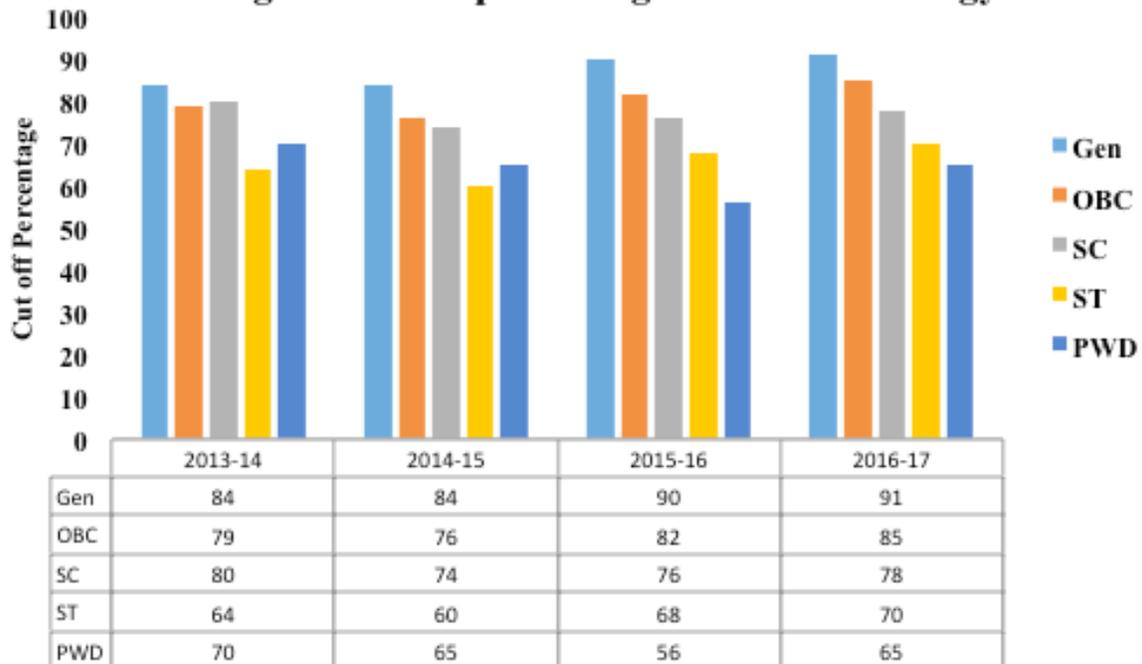
(a) Number of students admitted year wise in different courses supported under the Star College Scheme



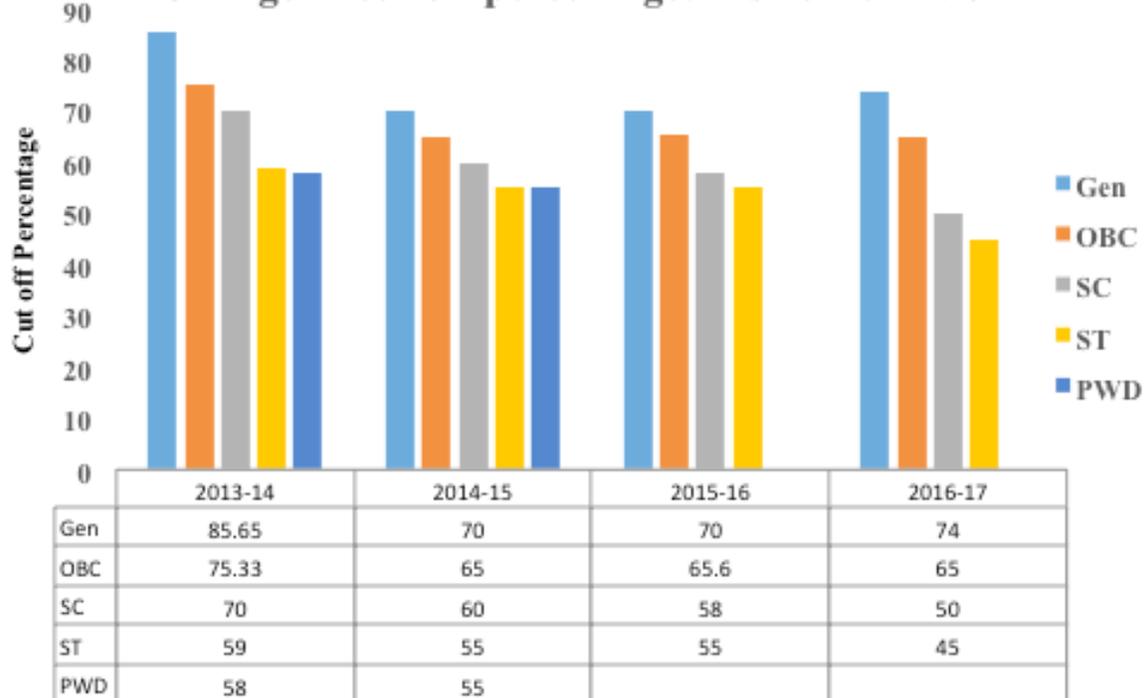
(b) Change in the cut off percentage/admission



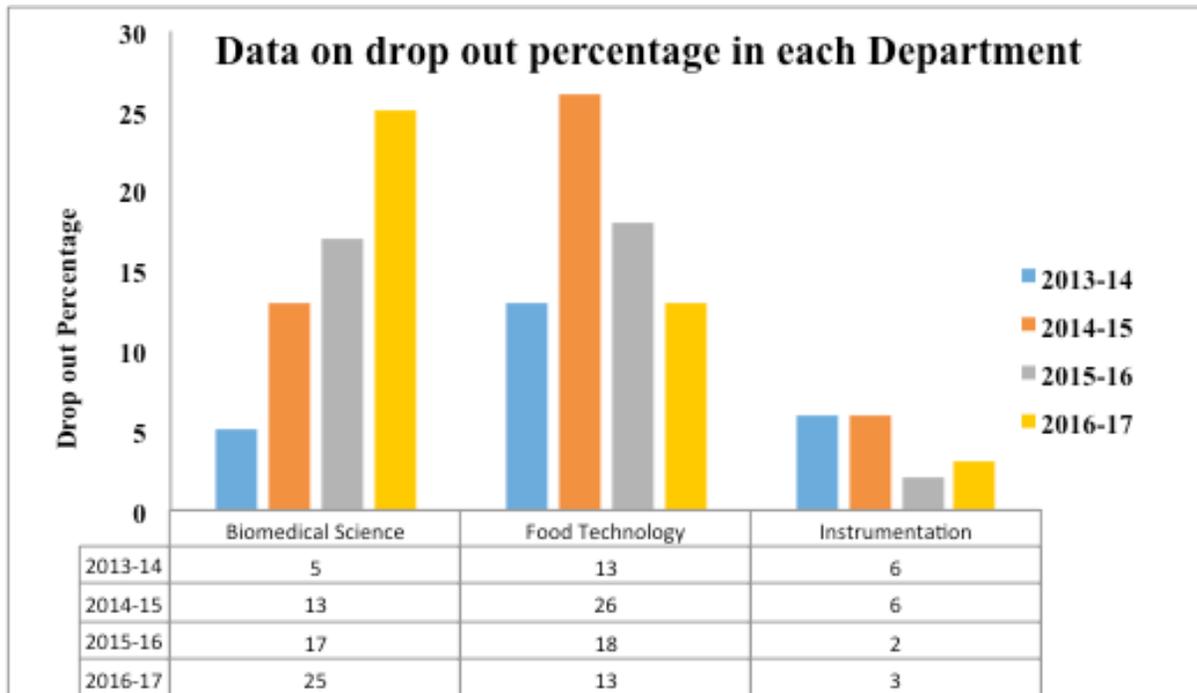
Change in cut off percentage: Food Technology



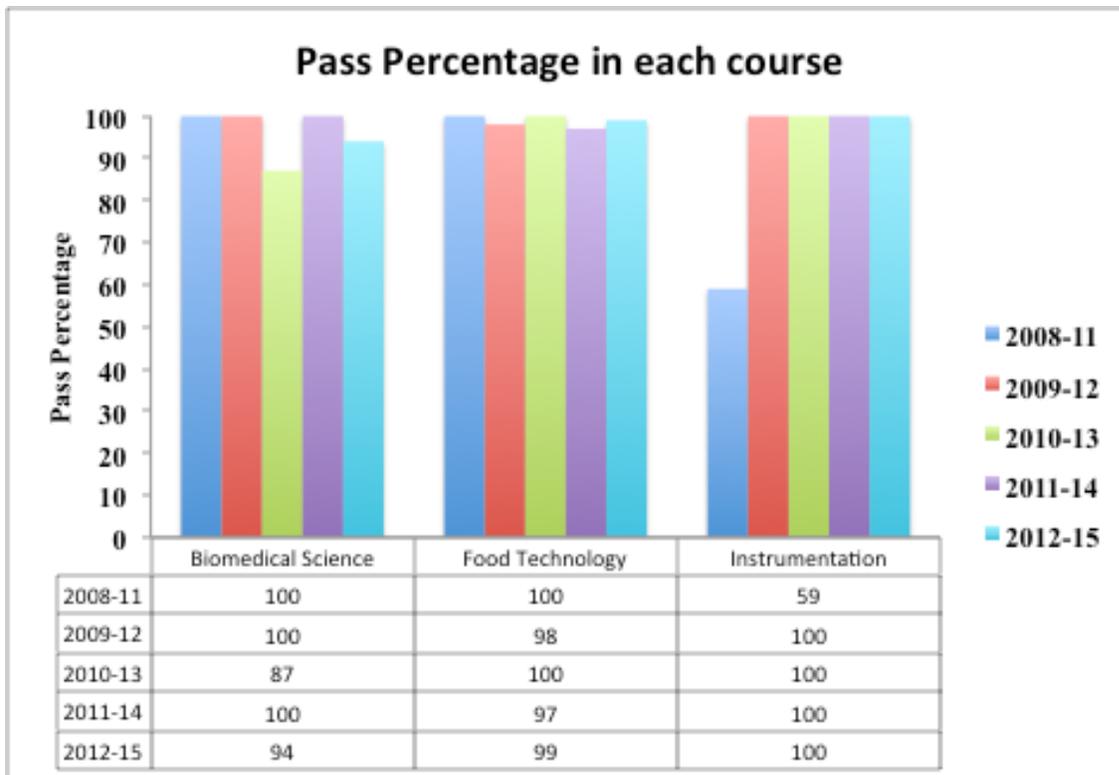
Change in cut off percentage: Instrumentation



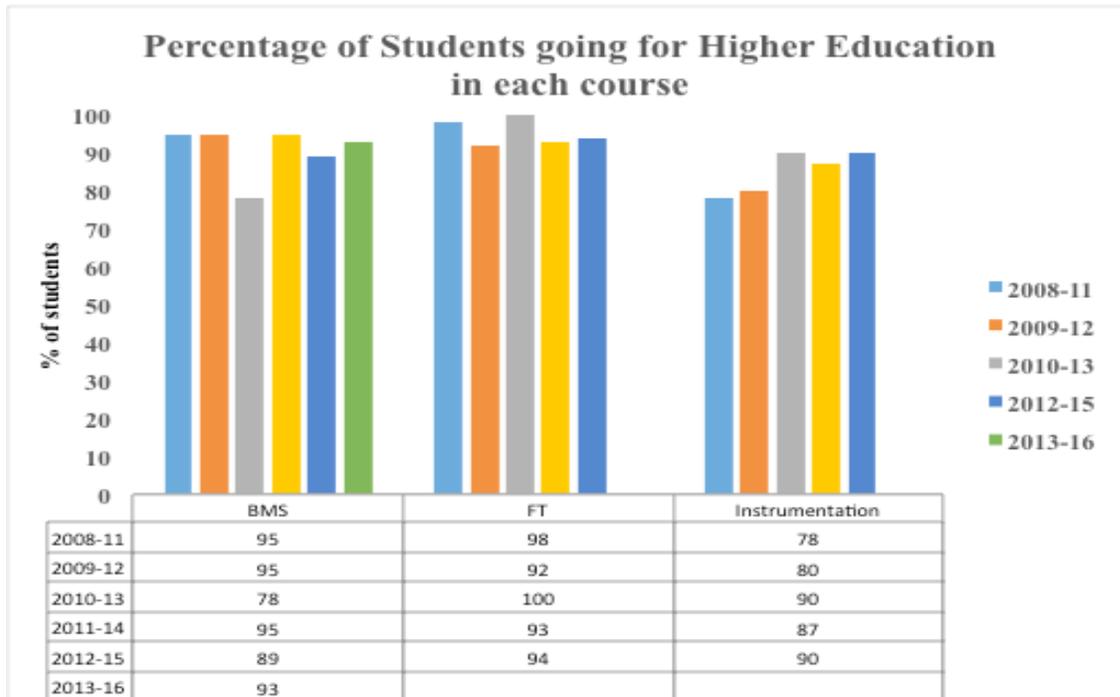
(c) Change in the dropout rate



(d) Data on pass percentage (UG level)



(e) Data on how many students opted for PG courses



DBT Star College Report (Year Wise)

4th Annual Report (April, 2017 – March, 2018)

1. **Name of the College:** Shaheed Rajguru College of Applied Sciences for Women
2. **Status(Govt./ Govt. Aided/ Autonomous/Pvt):** Govt.
3. **Women's College or Co-educational:** Women's College
4. **Urban/Rural:** Urban
5. **No. of departments supported:** 03
6. **NAAC Ranking + Year:** 'A' Grade, 2016
7. **Details of extramural funding received in the last 3 years (UGC, DBT, DST; duration, period and amount)**

S. No.	Funding Body	Duration (Years)	Amount
1	DST	03 (May,15 to May,18)	23,30,000/-
2	DST	03(April 2017-April 2020)	30,00,000/-

8. List of additional practicals introduced

Department of Biomedical Science:

1. Synthesis of silver nanoparticles. (Dr. Indu Arora) B.Sc.(H) Biomedical Science III sem, Number of students: 30
2. Extraction of solanine from Potato. (Dr. Parvinder Kaur) B.Sc.(H) Biomedical Science VI sem, Number of students: 28
3. To study the interaction of a library of 55 compounds from plant extract with the receptor target using molecular modeling tools. (Dr. Manisha Khatri) B.Sc.(H) Biomedical Science III sem, Number of students: 30

Department of Food Technology:

4. Design and layout of various food processing systems and food service areas
5. Design and layout of cold storage and warehouses
6. Determination of physico-chemical properties of waste-water
7. Preparation of sanitization schedule for food preparation area
8. Testing of sanitizers and disinfectants

9. Study of phenol-coefficient of sanitizers
10. Study of waste-water treatment system (ETP) and Visit to Mother Dairy ETP system.

Department of Instrumentation:

11. To purify samples of different boiling points.
12. Extraction of residual pesticides from fruits and vegetable samples.
13. Estimation of secondary metabolites from medicinal plants using TLC.
14. Estimation of fatty acids from different oil seed samples using GLC.

9. List of minor projects implemented, name of students and supervisor

Various interdisciplinary in house projects were initiated and completed by the students of participating departments under the DBT star scheme. Some of them are:

S.No.	Title of the Project	Name of Supervisor
1	New Product Development- "Sapota Spread"	1. Dr. Ranjana Singh
2	Development of biodegradable gluten based films for food packaging	1. Ms. Saumya Chaturvedi
3	New Product Development:banana choco spread	1. Dr. Ranjana Singh
4	New Product Development: tamarind panna conc.	1. Dr. Ranjana Singh
5	Impact assessment of Indian participation in international standard setting process	1. Dr. Deepa Joshi 2. Ms. Seema Shukla
6	Bioactive component quantification and estimation of total antioxidant activity from Punica granatum L peels extract for industrial waste utilisation.	1. Ms. Chaynika Verma
7	New Product Development- Dates Ice Cream	1. Dr. Ranjana Singh
8	Osmotic dehydration of Apples with various additives	1. Ms. Saumya Chaturvedi
9	Exploitation of unmarketable potatoes for the preparation of instant custard powder	1. Ms .Saumya Chaturvedi
10	Street food in India a survey analysing hygiene level	1. Ms .Saumya Chaturvedi
11	Cell Phone detector	1. Ms. Reshma Sinha
12	Wireless heartbeat and temperature monitoring system	1. Ms. Reshma Sinha
13	Designing and simulating power supply	1. Ms. Neha Garg
14	To make a metal detector using transistors	1. Ms. Himani Dua
15	To make a laser security system using transistors	1. Ms. Himani Dua

16	Bluetooth Controlled Home Automation system using Aurdino	1. Dr. Yogesh Pratap
17	Analysis of physical, chemical, microbial and electrical properties of milk procured from different sources.	1. Dr. Daya Bhardwaj 2. Dr. Manisha Khatri 3. Ms. Chaynika Verma 4. Ms. Saumya Chaturvedi
18	Physico-chemical and microbiological analysis of various brands of Milk and health drinks.	1. Dr. Daya Bhardwaj 2. Dr. Manisha Khatri 3. Ms. Chaynika Verma 4. Ms. Saumya Chaturvedi

10. Faculty improvement activities such as training courses, seminars etc conducted and their impact

1) Department of Instrumentation in collaboration with IEEE - EDS Delhi Chapter organised one-day training on 14th July 2017 of SILVACO TCAD. Mr Subhajit Chatterjee from Cognitive Design Technology PVT LTD, Bangalore delivered the training session to the faculty members and research scholars. Mr Subhajit Chatterjee started with the introduction to TCAD and then explained the simulation of NMOS process structure using ATHENA and ATLAS. It was a great learning experience for everyone.

2) The first UGC, DBT and CSEC sponsored National Faculty Development program on “Recent Trends in Applied Science Teaching (FDP-RTAST)”, was conducted by Shaheed Rajguru College of Applied Sciences for women from 21st – 27th July 2017. The 7-day Faculty Development Program was inaugurated by Padmabhushan Prof. M.D Athreya as a chief guest, who focused on improving the quality of teaching and empowering the students with subject skills for future.

3) The Food Technology Department organized training cum workshop in collaboration with FSSAI on the topic of “Food Safety Standards in a Bakery Industry” on 31st July, ‘2017’.

4) Department of Instrumentation organized a one day talk cum interaction session with Alumni under activity “Vyakhyan” on 23rd August, 2017. In this session our eminent alumni Ms. Surabhi Jain, Research Analyst and Ms. Surbhi Gupta, Research Analyst in Jubilant Organosys Pvt. Ltd, Noida and Ms. Aparna Sharma CEO, Innovators and Entrepreneurs’ Academy, Dubai, United Arab Emirates were invited to

share their experiences and career journey with the students. Around 100 students and faculty members of department of Instrumentation and Chemistry attended the session.

5) Department of Instrumentation and Department of Psychology has organized an event named “PSYMENTIA “on 29th Aug 2017. The objective of the event is to develop inter personal relationship among the students

6) The Department of Biomedical Science, Shaheed Rajguru College of Applied Sciences for Women, University of Delhi, organized 3 Day workshop on “Next Generation Sequencing Data Analysis” from 5th – 7th July, 2017 in collaboration with Bio-Discovery Group.

7) The Department of Biomedical Science in collaboration with Department of Biochemistry and Microbiology of Shaheed Rajguru College of Applied Sciences For Women, conducted the most awaited departmental fest of the college – “Plexus” on 27th October, 2017. The theme of the event was –“Forensic Science – face to a case”.

8) Interaction with Alumunus: Ms Palak Parasher Alumini of Department of Biomedical Science batch 2012-15 was invited to interact with students of the department. She is presently pursuing Ph.D from JNU. She motivated students to take up research as a career option.

9) The Department celebrated “World Food day” on 13th October 2017 with great enthusiasm.

10) Department of Instrumentation in collaboration with IEEE - EDS Delhi Chapter organized a talk on “Evolution of Electronics and VLSI Design” on 26th October, 2017 on the occasion of their annual technical Festival “Technexus”.

11) Department of Instrumentation organized inter college technical fest “Technexus” on 26th and 27th October, 2017.

12) Department of Instrumentation in collaboration with other departments of the college organized a one-week Para teaching staff skill enhancement Workshop (PTSSEW) from 15th to 21st December, 2017; jointly sponsored by IEEE Delhi chapter, UGC and DBT Star College Scheme.

13) Department of Instrumentation in collaboration with ROBOTICA, Robotics club of college organized a talk on Artificial Intelligence on 17th January, 2018.

14) The talk was delivered by CETPA INFOTECH PVT LTD. Two-day workshop on “Drug Discovery Technologies” was conducted by Department of Biomedical Science from 18th – 19th January, 2018.

15) The Department of Food Technology organized a lecture on ‘Food Safety: Global Trends and Role of FSSAI’ and Grain storage and management on 26th February ‘2018’.

11. Outreach activities conducted and their impact/ follow-up

1. A student exchange program between Shaheed Rajguru College and University of Sikkim was organized from 8th April, 2017 to 17th April, 2017.

2. English remedial classes were organized for students.
3. Tree Plantation Drive and Tree Adaptation by the students.
4. Computer Literacy Programme: A Collaborative initiative of the College and Galaxy Classes / Manav Ujjwal Samaj Samiti for the people of underprivileged section of the society.
5. Digital Empowerment for Homemakers (DEH) programme in association with Sakhi Saheli, an active NGO working for women welfare and empowerment in Vasundhara Enclave. The objectives of this initiative are to digitally literate non working women of all age groups and enable them to acquire basic ICT skills.
6. Vitiya Saksharta Abhiyan: A two days' workshop on cashless transaction in support of digital India initiative. The motive of workshop was to make the college staff members familiar about cashless transaction modes and showcase it with real time examples.
7. The department of food technology has organized an outreach activity on “ Basic food handling and storage” for housekeeping and canteen staff on 26th May 2017. The main objective of this interaction session was to make them aware about the importance of basic food handling, hygiene, storage and impact on health.
8. Shaheed Rajguru College of Applied Sciences for Women, University of Delhi organized a workshop entitled “Wonders of Science” for 50 students of East Delhi School on 17th - 18th May, 2017.
9. “The Students participated in All India Level Quiz competition organized by CII FACE under the initiative “SURAKSHIT KHADYA ABHIYAN” at Indian Habitat Centre, New Delhi on 18th September, ‘2017’.
10. The Students and faculty members attended the Public Lecture series organized by FSSAI in collaboration with CHIFSS on 22nd September ‘2017’.
11. The students and faculty member attended one-day National conference organized by AFSTI (Association of food scientists and technologists India) Delhi chapter, in association with Amity Institute of Food Technology “AMIFOST – 2017” on the theme “Food Safety, Nutrition Security and Sustainability” on 26th September, 2017 at Amity University Uttar Pradesh, Noida.
12. The faculty members and students attended “World Food India-is a gateway of Indian food economy “organized by ministry of food processing industries, government of India. It was held in partnership with Confederation of Indian Industry (CII) at Vigyan Bhawan, New Delhi, India from 3-5 November, 2017.
13. 15 students and 3 faculty members from the three participating Departments visited Transitional Health Science and Technology Institute (THSTI) on 22nd September, 2017. It is an Institution established by the Department of Biotechnology, Govt. of India with regional and global partnerships synergizing with the programs of UNESCO.

14. A group of four students of M.Sc. (F) Forensic Science, Department of Anthropology, University of Delhi completed training of 5 weeks at Department of Instrument from 17th January 2018 to 20th February 2018. They were trained on Analytical Instruments used in Forensic analysis, under the guidance of Dr. Daya Bharadwaj & Dr. Jasjeet Kaur.

15. Miscellaneous outreach activities organized by the college in collaboration with NSS.

- Swachhta Abhiyan
- Matdata Month
- Plastic Collection drive
- Collection of Stationary
- Old Age Home/Orphanage Visit
- Literacy drive
- Vermicomposting
- IRSC (Indian Road Safety Campaign) Orientation
- Quiz on Road Safety
- Self Defence Camp
- HIV/AIDS Seminar
- Vittiya Saksherta Abhiyan/workshop
- National Youth Forum on Drug Use Prevention
- Mental Health Awareness Seminar
- Workshop on Disaster Management
- Talk on PCOD (Polycystic Ovarian Disease)
- Kids Talent Hunt
- Swacchata Pakhwara

16. Any outstanding achievement by student/faculty (merit, award, research paper, presentation in national/international conference/ etc; full citation to be provided)

Dr. Varsha Mehra, Assistant Professor, Department of Biomedical Science

1. Published a review article entitled “Trials and Tribulations of Tuberculosis Research: Can Plant Based Drug(s) be the solution?” Smita Mishra, Manisha Khatri and Varsha Mehra. Chem. Biol. Lett. 2017, 4(1), 33-47
2. Varsha Mehra, Manisha Khatri, Smita Mishra, Nitisha Singh, Nikita Sharma, Ritu Goswami, Nivedita Mehta, Namrata, Himanshu, Aparna Jaiswal, Pranshu Kothari, Pratishtha Chopra, Anusha, Ranjana Singh and Shikha Goel published research paper on “Assessment of Anti-diabetic and Anti-oxidant activity of *Murraya koenigii* extracts using in-vitro assays” in Journal of Biomedical and Therapeutic Sciences, 2018, 5(1), 1-8.

Dr. Indu Arora, Assistant Professor, Department of Biomedical Science

1. Member of Organizing Committee, as resource person in National Para-teaching Staff Skill Enhancement Workshop (PTSSEW 2017).

Dr. Manisha Khatri, Assistant Professor, Department of Biomedical Science

1. Published a review article entitled “Trials and Tribulations of Tuberculosis Research: Can Plant Based Drug(s) be the solution?” Smita Mishra, **Manisha Khatri** and Varsha Mehra. Chem. Biol. Lett. 2017, 4(1), 33-47.
2. Member of Organizing Committee, as resource person in National Para-teaching Staff Skill Enhancement Workshop (PTSSEW 2017).
3. Varsha Mehra, Manisha Khatri, Smita Mishra, Nitisha Singh, Nikita Sharma, Ritu Goswami, Nivedita Mehta, Namrata, Himanshu, Aparna Jaiswal, Pranshu Kothari, Pratishtha Chopra, Anusha, Ranjana Singh and Shikha Goel published research paper on “Assessment of Anti-diabetic and Anti-oxidant activity of *Murraya koenigii* extracts using in-vitro assays” in Journal of Biomedical and Therapeutic Sciences, 2018, 5(1), 1-8.

Dr. Daya Bhardwaj, Assistant Professor (Stage 2), Department of Instrumentation

1. Member of Organizing Committee, as resource person in National Para-teaching Staff Skill Enhancement Workshop (PTSSEW 2017).

Dr. Sneha Kabra, Assistant Professor, Department of Instrumentation

1. Attended one day workshop on “Modeling & Simulation Techniques for Advance Semiconductor Devices” organized by IEEE-EDS Delhi Chapter in association with Tech Next Lab Private Limited, Lucknow on 18th July 2017 at UDSC.
2. Attended IEEE-EDS Distinguished Lecturer Talk On Statistical analysis of Reliability test data by Prof. Cher Ming Tan, Chang Gung University on 11th August 2017 at UDSC

Ms. Himani Dua, Assistant Professor, Department of Instrumentation

1. Organized a three-day workshop on “Multisim software” from 7th June 2017 to 9th June 2017 in Shaheed Rajguru college of Applied sciences for women.
2. Member of Organizing Committee in workshop entitled “Wonders of Science” for students of East Delhi School on 17th to 18th May, 2017 under the DBT Star College Scheme outreach activity.
3. Member of Organizing Committee and a resource person in National Para-teaching Staff Skill Enhancement Workshop (PTSSEW 2017).

Ms. Neha Garg, Assistant Professor, Department of Instrumentation

1. Organized a three-day workshop on “Multisim software” from 7th June 2017 to 9th June 2017 in Shaheed Rajguru college of Applied sciences for women.
2. Member of Organizing Committee in workshop entitled “Wonders of Science” for students of East Delhi School on 17th to 18th May, 2017 under the DBT Star College Scheme outreach activity.
3. Visited THSTI on their open day on 22nd September 2017 along with students.
4. Member of Organizing Committee, as resource person in National Para-teaching Staff Skill Enhancement Workshop (PTSSEW 2017).
5. Tina Sachdeva, Aakansha, Neha Garg, Shivani Digari, Himani Kaira, Shivani Tiwary, Dolly, Neerajpreet Kaur, Bhavna Goel, Priya Naib, Chhavi Jain, Shivani Jain, Shreya Rajan “ Designing of an application for group based coordination for information exchange in Ad-hoc networks”, Computing and Communication Technologies for Smart Nation (IC3TSN), 2017 International Conference on 12-14 Oct. 2017

Mr. Yogesh Pratap, Assistant Professor, Department of Instrumentation

1. Yogesh Pratap, M. Kumar, SnehaKabra, S. Haldar, R. S. Gupta and Mridula Gupta. "Analytical Modeling of Gate-All-Around Junctionless Transistor based Biosensor for Detection of Neutral Biomolecule Species." Journal of Computational Electronics, Vol-17, no-1, PP- 288-296, Year 2017. (Springer).
2. M. Kumar, YogeshPratap, S. Haldar, R. S. Gupta and Mridula Gupta. "Cylindrical Gate All Around Schottky Barrier MOSFET with Insulated Shallow Extensions at Source/Drain for Removal of Ambipolarity: A Novel Approach." Journal of Semiconductor, Vol-38, no-12, PP- 124002-08, Year 2017.
3. Yogesh Pratap, P. Pal, S. Malik, and S. Kabra."Performance Analysis of Metalloid source/ drain GaAs-finfet for analog/RF applications, ICDCS International conference, held at Karunya University, Kerela from 15-17 March, 2018.
4. Participated in the workshop “Wonder of Science” organized by Shaheed Rajguru College of Applied Science, University of Delhi.

Ms .Reshma Sinha, Assistant Professor, Department of Instrumentation

1. Member of Organizing Committee in workshop entitled “Wonders of Science” for students of East Delhi School on 17th to 18th May, 2017 under the DBT Star College Scheme outreach activity.
2. Organized a three-day workshop on “Multisim software” from 7th June 2017 to 9th June 2017 in Shaheed Rajguru college of Applied sciences for women.
3. Worked as an active member of the organizing committee of UGC and DBT Sponsored, National Para-teaching staff Skill Enhancement Workshop (PTSSEW 2017) held during 15th to 21st December, 2017 in Shaheed Rajguru College of Applied Sciences for Women, Delhi University, India.
4. Yogesh Pratap, Sachin Kumar, Reshma Sinha, Parveen Pal, Sarul Malik and SnehaKabra (2018), “Performance analysis of Metalloid Source/ Drain GaAs-FinFET for

Analogy/RF Applications” in IEEE ICDCS 18 International Conference on Devices, Circuits and Systems, held on 17-18th, March, 2018 at Coimbatore, India. (InPress).

Ms. Sonal Singh, Assistant Professor, Department of Instrumentation

1. Presented a Paper titled "Nitrogen-doped ZnO coupled with BiVO₄ with high Zn interstitial defects and enhanced surface area for enhanced photocatalytic dye degradation activity" at 4th International Conference on Nanoscience and Nanotechnology (ICONN-2017) held at SRM University, Chennai during August, 9-11, 2017.
2. Worked as an active member of the organizing committee and resource person of UGC and DBT Sponsored, National Para-teaching staff Skill Enhancement Workshop (PTSSEW 2017) held during 15th to 21st December, 2017 in Shaheed Rajguru College of Applied Sciences for Women, Delhi University, India.
3. Attended and presented poster titled “Nitrogen-doped ZnO coupled with BiVO₄ with high Zn interstitial defects and enhanced surface area for enhanced photocatalytic dye degradation activity” at 4th International Conference on Nanoscience and Nanotechnology (ICONN-2017) held at SRM University, Chennai during August, 9-11, 2017.
4. Sonal Singh, AakanshaRuhela, Sanju Rani, ManikaKhanuja and Rishabh Sharma, Concentration specific and tunable photoresponse of bismuth vanadate functionalized hexagonal ZnO nanocrystals based photoanodes for photoelectrochemical application, Solid State Sciences, Elsevier, 76, 48-56, 2018.

Ms. Sarul Malik, Assistant Professor, Department of Instrumentation

1. Attended and presented poster titled “Non Invasive Platform to Estimate Fasting Blood Glucose using Saliva” at IIT Delhi’s Industry day under the theme of Affordable Healthcare held on 23rd Sept. 2017 at Indian institute of Technology Delhi.
2. Worked as an active member of the organizing committee of UGC and DBT Sponsored, National Para-teaching staff Skill Enhancement Workshop (PTSSEW 2017) held during 15th to 21st December, 2017 in Shaheed Rajguru College of Applied Sciences for Women, Delhi University, India.
3. Attended and orally presented titled “Blood glucose estimation using saliva as a non-invasive biofluid” at SYSCON 2017-2018” National conference of the society of young Scientist (R) AIIMS, New Delhi held on 11th and 12th January, 2018 at JLN Auditorium, AIIMS, India.
4. **Awarded 3rd Best oral presentation award** at SYSCON 2018 titled at SYSCON 2017-2018” National conference of the society of young Scientist (R) **AIIMS, New Delhi** held on 11th and 12th January, 2018 at JLN Auditorium, AIIMS, India.

5. Attended and presented poster titled “Non Invasive Platform to Estimate Fasting Blood Glucose using salivary electrochemical parameters” at National Science Day 2018 held on 28th Feb. 2017 at Indian National Science Academy, Delhi.
6. Yogesh Pratap, Sachin Kumar, Reshma Sinha, Parveen Pal, Sarul Malik and Sneha Kabra (2018), “Performance analysis of Metalloid Source/ Drain GaAs-FinFET for Analogy/RF Applications” in IEEE ICDCS 18 International Conference on Devices, Circuits and Systems, held on 17-18th, March, 2018 at Coimbatore, India. (InPress).

Ms. Sweta Arya, Mr. Tofiq Ali, Mr. Bhuvan Bhatt and Mr. Ashok Roy of Department of Instrumentation and Department of Chemistry

Ms. Isha Kaushik, Assistant Professor, Department of Food Technology

Dr. Heena Lamba, Assistant Professor, Department of Food Technology

Ms. Savitri Gupta and Sh. Vijay Nandan, Supporting Staff Department of Food Technology

Ms. Para Dholakia, Assistant Professor, Department of Food Technology

1. Para Dholakia, Deepali Bajaj, Asha Yadav, Disha Gupta, Kaavya Raveendran, Lavika Singh and Mansi Manchanda 2017. Mobile application to track nutritional intake-a smart step towards nutritional security through m-health', in the conference proceedings of World congress on Disease, Health and Society: Issues, challenge, 20th May, 2017, Page-15-19, ISBN no. - 9789385822513, Krishi Sanskriti Publications, Delhi
2. Deepali Bajaj, Asha Yadav, Para Dholakia, Bhawna Jain, Deeksha Sharma, Diksha Tewari, Dinika Saxena, Disha Sahni, Preetanjali Ray 2017. Android based nutritional intake tracking application for hand-held systems, Conference Proceedings of 8th International Conference on computing, Communication And Networking Technology (ICCCNT) IEEE conference held in IIT Delhi, India on 3-5th July 2017, Page 589-591, IEEE Catalog Number:CFP1752J-ART , ISBN: 978-1-5090-3038-5

Ms. Saumya Chaturvedi, Assistant Professor, Department of Food Technology

1. Ms. Saumya chaturvedi has communicated two chapters under Springer Publications.
 1. “Optimisation of process parameters for osmotic dehydration of apples slices”
 2. “Exploitation and utilization of unmarketable (Grade D) potatoes from local Delhi markets for preparation of custard powder with different flavours”

Ms. Prabhjot Kaur, Assistant Professor, Department of Food Technology

1. Published paper entitled “Preparation of edible coatings and to study their effect on shelf life of green vegetables”, International Journal of Basic and Applied Biology, 4 (4), July-September 2017; 181-187.
2. **Ms. Prabhjot Kaur Sabharwal, Ms. Vandana Arya, Ms. Chaynika Verma** has communicated chapter on “Street Foods- Safety and Potential” under Springer Publications.

Ms. Vandana Arya, Assistant Professor, Department of Food Technology

1. Ms. Vandana Arya, Ms. Chaynika Verma and Ms. Prabhjot Kaur Sabharwal has communicated chapter on “Traditional Foods-The inheritance for good health” under Springer Publications.

Ms. Shikha Goel, Assistant Professor, Department of Food Technology

1. Ms. Shikha Goel has communicated chapter on “Fruit Waste: Potential as a functional ingredient in foods” under Springer Publications.
2. Published an abstract on Miracle Berry: a Sweet Fix for Our Palate, in National Conference on “Food Processing India 2017” in National Conference on “Food Processing India 2017” organized by Guru Jambheshwar University, Hisar.
3. Published an abstract on Chemesthesis: the chemical sense, in National Conference on “Food Processing India 2017” in National Conference on “Food Processing India 2017” organized by Guru Jambheshwar University, Hisar.
4. Varsha Mehra, Manisha Khatri, Smita Mishra, Nitisha Singh, Nikita Sharma, Ritu Goswami, Nivedita Mehta, Namrata, Himanshu, Aparna Jaiswal, Pranshu Kothari, Pratishta Chopra, Anusha, Ranjana Singh and Shikha Goel published research paper on “Assessment of Anti-diabetic and Anti-oxidant activity of *Murraya koenigii* extracts using in-vitro assays” in Journal of Biomedical and Therapeutic Sciences, 2018, 5(1),1-8.
5. Shikha Goel, Mrigya Bansal, Priya Pal and Priyanka Prajapati presented poster on “Fruit waste: Potential as a functional ingredient in foods” in AMIFOST – 2017 National Conference on Food Safety, Nutrition Security and Sustainability organized on September 26, 2017 by Amity Institute of Food Technology (AIFT), Amity University, Noida and Association of Food Scientists and Technologists (India) (AFST(I)).

Students Achievements:

1. Ms. Nishu, Ms. Pallavi, Ms. Lisha Singh and Ms. Prachi Bhatnagar participated in the inter colligate quiz competition on the open day at Translational Health Science and Technology Institute (THSTI) on 22nd September, 2017 and secured 3rd position.
2. The students from third year, Ankita Rawat and Kadambini Pandey represented the college in the debate competition in a seminar organized by Association of Food Scientist and Technologist (India) Delhi Chapter AT NCUI on 16th OCTOBER 2017. Ms. Ankita Rawat bagged the best interjector award in the event.
3. Ms. Kadambini Pandey of B.Sc (H) Food Technology was awarded with Silver Medal & Certificate by the Italian Technical Services Food Safety Silver during the 73rd Annual Conference of AIFPA on 15th December, 2017 held in kolkata.
4. Ms. Mrigya Bansal of B.Sc(H) Food Technology was awarded with two prestigious scholarships viz. Protein Foods & Nutrition Development Association of India (*PFNDAI*) and World Brotherhood Organization (WBO).

17. List of Short term training courses/workshops conducted for students and faculty, including title, duration, no. of beneficiaries

- A group of 10 students had undergone 2 months' summer training from May 2017 to June 2017 on a project entitled "Antioxidant, antimicrobial and anti-inflammatory activity of *Adhatoda vasica* leaves extract".
- Two students from Amity University have done 2 months' dissertation on the project entitled "Role of genes and enzymes in lung and breast cancer".
- A group of four students of M.Sc. (F) Forensic Science, Department of Anthropology, University of Delhi completed training of 5 weeks at Department of Instrument from 17th January 2018 to 20th February 2018. They were trained on analytical Instruments used in Forensic analysis, under the guidance of Dr. Daya Bharadwaj & Dr. Jasjeet Kaur.
- The Department of Biomedical Science organized a crash course for students of Biomedical Science for various M.Sc. entrances in the month of January & February, 2018.

18. Guest Lectures (details like name of scientist, topic, no. of students)

All lectures are arranged for three participating departments and some for the entire college.

Name	Designation	Host Institute	Duration of Visit	Topic of Lecture/Discussion
Mr Subhajit Chatterjee	Cognitive Design Technology PVT LTD, Bangalore	Shaheed Rajguru College	14th July 2017	SILVACO TCAD
Dr. Ashni Gupta	FoSTac Trainer	Shaheed Rajguru College	31 st July, 2017	FoSTac Trainer
Ms. Surabhi Jain	Research Analyst, Jubilant Organosys Pvt. Ltd, Noida	Shaheed Rajguru College	23rd August, 2017	Alumni interaction session "Vyakhyan"
Ms. Surbhi Gupta	Research Analyst, Jubilant Organosys Pvt. Ltd, Noida	Shaheed Rajguru College	23rd August, 2017	Alumni interaction session "Vyakhyan"
Ms. Aparna Sharma	CEO, Innovators and Entrepreneurs' Academy, Dubai, United Arab Emirates	Shaheed Rajguru College	23rd August, 2017	Alumni interaction session "Vyakhyan"
Dr. Anil Aggarwal	Prof. Maulana Azad Medical College	Shaheed Rajguru College	27th October, 2017	Forensic Science – Face to a Case
Dr. G.S. Sodhi	Associate Prof. SGTB Khalsa College, DU	Shaheed Rajguru College	27th October, 2017	Forensic science and chemistry: Hand in Hand

Kautilya Kashyap	CETPA INFOTECH PVT LTD.	Shaheed Rajguru College	17 th January 2018.	Artificial Intelligence
Mr Wesley Wojtas	Technical Expert, Energy Efficiency Building Program, Indo-German Energy Program, Ministry of Power, New Delhi. India Pvt. Ltd.	Shaheed Rajguru College	1 st February 2018.	Issues Related to Environment'
Prof. Y Singh	Dean Research Life Science, Delhi University	Shaheed Rajguru College	27 th Feb, 2018	Scope and future in Microbiology

19. Visits to industries, institutes etc (name of place, duration of visit and no. of students)

S. No.	Name of Institute/Industry	Duration of visit	Number of students
1	Mother Dairy Plant Mother Dairy Plant, Patparganj, Delhi	06/04/17.	52
2	Gogia Chemical Industries Pvt. Ltd., Greater Noida.	10/04/17	32
3	Semiconductor Laboratory Chandigarh	11/04/17 to 12/04/17	36
4	Translational Health Science and Technology Institute (THSTI), Delhi.	22/09/17	13
5	AIIMS, New Delhi	27 th September, 2017	30
6	Defence Institute of Physiology and Applied Sciences (DIPAS, DRDO)	13 th October, 2017	35
7	Jubilant Generics and Chemsys	1 st Nov 2017	7
8	National dairy Research Institute, Karnal	9 th February, 2018	30
9	Keoladev bird sanctuary, bharatpur, rajasthan	21 st – 22 nd February, 2018.	40
10	Excursion trip to Mcleodganj, Himachal Pradesh	14 th March, 2018 to 18 th March, 2018	49

DBT Star College Report (Year Wise)

5th Annual Report (April, 2018 – June, 2019)

1. **Name of the College:** Shaheed Rajguru College of Applied Sciences for Women, Vasundhara Enclave, Delhi

2. **(a) Name of Departments supported:**
Department of Biomedical Science
Department of Food Technology
Department of Instrumentation

(b) Name of Coordinator, designation, address, phone nos.:

Dr. Varsha Mehra
Assistant Professor (Senior Scale)
Department of Biomedical Science
Shaheed Rajguru College of Applied Sciences for Women
Vasundhara Enclave, Delhi -110096
Ph.no. 9971703464

3. **No. of regular faculty with Ph.D. in each participating department:**

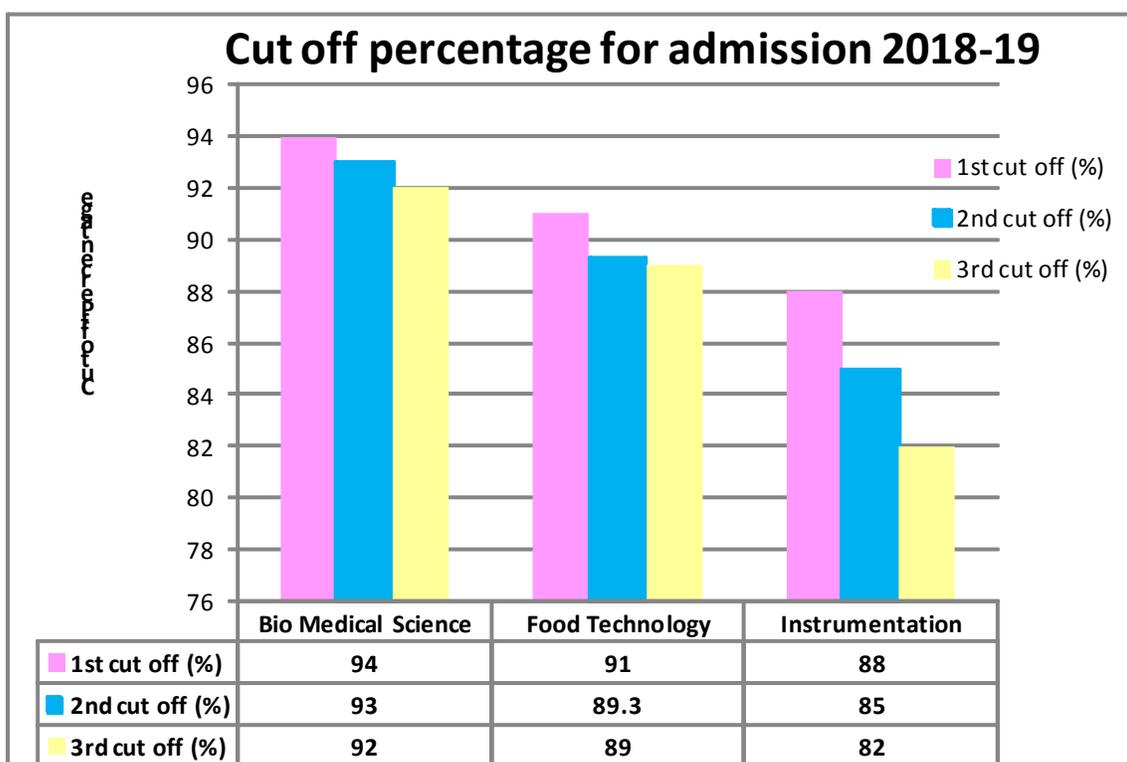
Department	Faculty with Ph.D	Faculty without Ph.D
Department of Biomedical Science	<ul style="list-style-type: none">• Dr. Radhika Bakshi• Dr. Varsha Mehra• Dr. Mohd. Saquib Ansari• Dr. Shruti Banswal• Dr. Indu Arora• Dr. Manisha Khatri• Dr. Parvinder Kaur• Dr. Hemant	<ul style="list-style-type: none">•
Department of Food Technology	<ul style="list-style-type: none">• Dr. Ranjana Singh• Dr. Deepa Joshi	<ul style="list-style-type: none">• Ms. Para Dholakia (Pursuing)• Ms. Saumya Chaturvedi• Ms. Vandana• Ms. Prabhjot Kaur Sabharwal (Pursuing)• Mr. Twinkle Kumar Sachchan (Pursuing)
Department of Instrumentation	<ul style="list-style-type: none">• Dr. Daya Bhardwaj• Dr. Sneha Kabra• Dr. Yogesh Pratap	<ul style="list-style-type: none">• Ms. Neha Garg• Ms. Himani Dua• Ms. Reshma Sinha

	<ul style="list-style-type: none"> • Dr. Sonal Singh • Dr. Sarul Malik 	
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4. List of courses (B.Sc./M.Sc./PG Diploma, certificate etc) run by different participating departments:

Department	Courses
Department of Biomedical Science	B.Sc (Hons)
Department of Food Technology	B.Sc (Hons)
Department of Instrumentation	B.Sc (Hons)

5. Cut off percentage for admission in different courses in participating departments, positions in university, percentage of result in 2017-18 academic session :



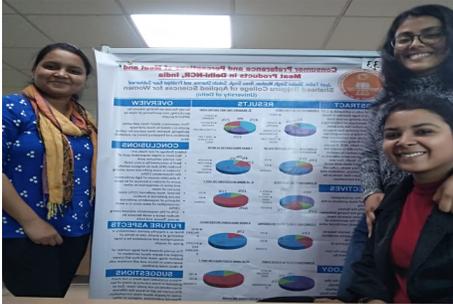
6. List of projects undertaken by students, industrial visits by students, summer training in last one year:

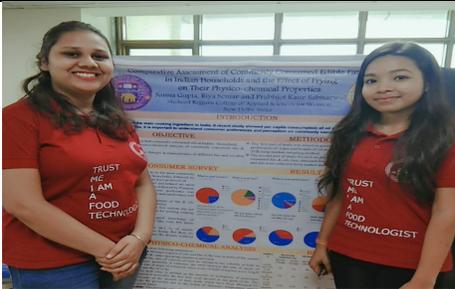
Projects undertaken by students (2018 -19)

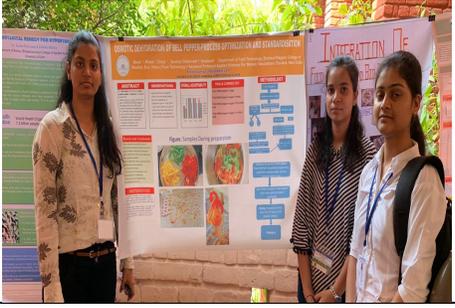
S.no.	Title of the Project	Name of Students	Name of Supervisor
1	To statistically verify the association between the MSG consumption/Dietary supplements consumption/Smoking and silent hypertension in young girls of age group 18-21 years using MS Excel.	Arti Aishwarya, Alisha Anchal Arufi Bhuvana Divya	Dr. Parvinder Kaur
2	To statistically verify the association between the awareness among young girls of age group 18-21 years about anemia and dietary habits. 	Humera Ishi Jhalak Juhi Lakshmi, Lovely Neha Nidhi Mansi	Dr. Parvinder Kaur
3	To statistically verify the association between the awareness among young girls of age group 18-21 years about PCOD and dietary habits.	Saloni Shanna Shobika Praveena Shivani Vartika Ilma Prajwali	Dr. Parvinder Kaur
4	To statistically verify the association between the awareness among young girls of age group 18-21 years about SPM and buying of masks. 	Saloni Shanna Shobika Praveena Shivani Vartika Ilma Prajwali	Dr. Parvinder Kaur
5	Isolation of microbes from soil with characterization on selective media.	Arti Aishwarya Alisha Anchal Arufi	Dr. Shruti Banswal

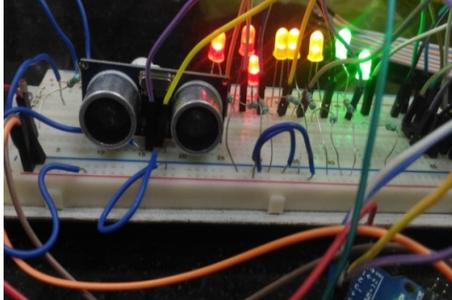
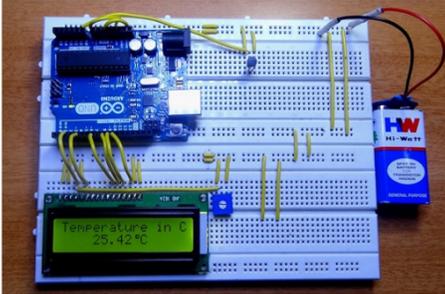
			
6	Isolation of microbes from air with characterization on selective media. 	Bhuvana Divya Humera Ishi Jhalak	Dr. Shruti Banswal
7	Isolation of microbes from water with characterization on selective media.	Juhi Lakshmi Lovely Neha Nidhi Mansi	Dr. Shruti Banswal
8	Incorporation of Plantation Stem Powder into Various North Indian Traditional Dishes	Aditi Manisha Ayushi Misra	Dr Ranjana Singh
9	New Product Development - Star Fruit Candy Shortlisted In Delhi University Cluster Innovation Centre under - Agricultural And Rural Development for further action 	Anjali Gautam Nisha Prachi Agarwal	Dr Ranjana Singh
10	New Product Development - Gluten Free Muffin 	Shivani Prachi Simran	Dr Ranjana Singh

11	<p>New Product Development - Black Grapes Sauce</p> 	Shefali Priya Shikha	Dr Ranjana Singh
12	<p>New Product Development - Kiwi Jam</p> 	Ayushi Kriti Nidhi	Dr Ranjana Singh
13	<p>New Product Development - Kiwi Candy</p> 	Roslin Rosini Ankita	Dr Ranjana Singh
14	<p>New Product Development - Carrot Muffin</p> 	Simran Pragya Rakshinda	Dr Ranjana Singh
15	<p>New Product Development - Diabetic Friendly Muffin</p>	Ayushi Yogi Shriya Rupam	Dr Ranjana Singh

			
16	New Product Development - Ragi Nachos	Roshni Shivangi Rashi	Dr Ranjana Singh
17	New Product Development - Multi Grain And Seeds Chikki 	Ayushi Bansal Lavanya	Dr Ranjana Singh
18	New Product Development - Spinach And Carrot Pizza Base	Anupam Nitika Archana	Dr Ranjana Singh
19	Physico-chemical and Microbial Analysis of Meat	Shalini Singh Pragya	Dr. Deepa Joshi and Ms Prabhjot Kaur Sabharwal
20	New Product Development - Effect of frying on fats and oils	Sanna Gupta Sana Ansari Riya Nivika	Ms Prabhjot Kaur Sabharwal
21	Consumer Preference and Perception of Meat and Meat Products in Delhi-NCR 	Jyoti Yadav Muskan Renu Singh Sakshi Sharma Shalini Singh	Ms Prabhjot Kaur Sabharwal
22	Comparative Assessment of Commonly Consumed Edible Fats and Oils in Indian Households and the Effect of Frying on Their Physico-chemical Properties	Sanna Gupta Riya Semar	Ms Prabhjot Kaur Sabharwal

			
23	A survey on consumption of milk in Delhi-NCR	Mili Ravleen Anns Rani Garima Rashmi	Ms Prabhjot Kaur Sabharwal
24	Gluten awareness in India	Pragya Anshu km Prachi	Ms Prabhjot Kaur Sabharwal
25	A Study on Perception and Acceptance of Consumers For Read to Eat Food Products	Shruti Shalini Yadav Priyanshi	Ms Prabhjot Kaur Sabharwal
26	A Survey on Consumptions of Beverages in Delhi-NCR	Khushbu Himadri Harshiti Nimisha Samridhi	Ms Prabhjot Kaur Sabharwal
27	Public Distribution System Across Villages in Delhi	Shashi Samiksha Versha	Ms Prabhjot Kaur Sabharwal
28	Standardization And Development Of Biodegradable Starch Based Edible Packaging Film From Citrus Fruit Waste With Natural Antimicrobial Agent 	Shivani Rupam Shriya Simran	Dr. Deepa Joshi, Ms. Saumya Chaturvedi and Ms. Ms Prabhjot Kaur Sabharwal
29	Analysis of Wheat Flour for potassium Bromate	Deepa Yadav	Mr. Twinkle Kumar Sachchan

			
30	New Product Development - Beetroot Powder 	Akansha Jagriti Atisha	Ms. Saumya Chaturvedi and Ms Vandana
31	New Product Development - Bell Pepper Candy 	Mansi Maurya Roopa Divya	Ms. Saumya Chaturvedi and Ms Vandana
32	New Product Development - Kiwi Bar	Abhilasha Lovenya	Ms. Saumya Chaturvedi and Ms Vandana
33	Amla Powder And It's Applications and Guava Papaya Bar	Saumya Anushi	Ms. Saumya Chaturvedi and Ms Vandana
34	New Product Development - Plum And Tamarind Candy	Nupur Kajal	Ms. Saumya Chaturvedi and Ms Vandana
35	Designing of EVM Machine using microcontroller	Shalini Pant Chitra Sharma	Dr. Yogesh Pratap, Ms. Reshma Sinha, Dr. Sneha Kabra

			
36	Obstacle detector for blind persons 	Chitra Sharma, Simran Trikha	Dr. Sonal Singh Dr. Yogesh Pratap
37	Arduino based digital Thermometer 	Akshara Sharma Himani Chaubey	Ms.Reshma Sinha Dr. Sarulmallik Dr. Daya Bhardwaj
38	To make blinking of two LED's alternatively using Arduino. 	Chitra Sharma Shalini Pant	Ms.Reshma Sinha Dr. Sarul Mallik Dr. Daya Bhardwaj
39	To toggle LED using pushbutton	Chitra Sharma Shalini Pant	Ms.Reshma Sinha Dr. Sarul Mallik Dr. Daya Bhardwaj
40	Arduino based Conductivity probe	Bhagyashree Doppad Neha Kumari Shipra	Ms.Reshma Sinha Dr. Sarul Mallik Dr. Daya Bhardwaj

			
41	IR Obstacle Sensor	Surbhi Chauhan Anjali jaiswal	Ms.Reshma Sinha Dr. Sarul Mallik Dr. Daya Bhardwaj

Industrial Visit

Department	Industry/research institutes
Department of Biomedical Science	AIIMS, Delhi
	Bhaskaracharya college of Applied Sciences, Dwarka, Delhi
	Translational Health Science and Technology Institute (THSTI), Faridabad
	ANDC College, Delhi University
Department of Food Technology	Gogia Flavour Industry, Greater Noida
	DELHI MILK SCHEME [DMS], Delhi
	Yakult , Sonipat
	NIFTEM, Sonipat



Summer Training/ Internship

Department	Location of Training/Internship	Name of Students
Food Technology	Food Corporation of India, Delhi	Aditi Kriti Ayushi Bansal
	Moon Beverages, Sahibabad	Anjali Ayushi Yogi Nitika Nisha

		Priya Ayushi Archana
	Mother Dairy, Delhi	Ayushi Misra Shefali Tripathi
	Delhi Milk Scheme, Delhi	Shivani Pragya Pallavi Rakshinda Prachi Shriya Simran Manisha Roshni
	Britania SIDCUL, Uttrakhand	Rupam
	Lilka Industry, Manipur	Roslin Rosini
	National Horticulture Board	Ankita
	1- month internship on “ Analytical Instrumentation Food Processing & Life Science Techniques” under DBT star college scheme	Shikha Shalini yadav Garima Nivika Garg Riya semar Sana Ansari Harshiti Kaur Sakshi Sharma Khushbu Deepa Himadri Kaushik Twinkle Zohra Hashmi Cheena Samridhi Singh Nimisha Singhal Shalini Samal Pratishtha Chopra Simran Bansal Priyanka sahani Akriti Sharma Neha Rawat Priya Sharma Khushboo Singh Anshu khari Neha Kumari Bhagyashree Dhoopad Sudha Yadav



		Neha Priya Akriti Yadav Neha Gupta Bhumika Jaluthria Shradha Tyagi Diksha Singla Anjali Saini
	Allana Meat Industry Limited, Sahibabad	Nidhi
	Haldiram, New Delhi	Ravleen
	Shiv Shakti Bakers, PARLE, Delhi	Sanna Gupta
	Narmada Dairy, AMUL Plant, Jabalpur, Madhya Pradesh	Astha Balodhi

Paper/Poster Presentation

Poster/Paper Title	Conference/Seminar/symposium/others	Presenter	Name of Supervisor
Poster presentation on Gluten free muffin	International conference Shyama Prasad Mukerjee college (University of Delhi)	Shivan Pallavi Prachi	Dr Ranjana Singh
A survey and analysis of food safety and hygiene standards of street food vendors in East Delhi	DDUC, Dwarka	Rupam Kriti ayushi misra nitika goel	Ms. Saumya Chaturvedi
Diabetic friendly muffins	International conference Shyama Prasad Mukerjee college (University of Delhi)	Ayushi yogi, rupam shriya	Dr Ranjana Singh
Consumer Preference and Perception of Meat and Meat Products in Delhi-NCR	International conference Shyama Prasad Mukerjee college (University of Delhi)	Jyoti Yadav Muskan Renu Singh Sakshi Sharma Shalini Singh	Ms Prabhjot Kaur Sabharwal
Comparative Assessment of Commonly Consumed Edible Fats and Oils in Indian Households and the Effect of Frying on Their Physico-chemical Properties	International conference Shyama Prasad Mukerjee college (University of Delhi)	Sanna Gupta Riya Semar	Ms Prabhjot Kaur Sabharwal

Standardization And Development Of Biodegradable Starch Based Edible Packaging Film From Citrus Fruit Waste With Natural Antimicrobial Agent	Idea Competition, Delhi University Innovation Council, Cluster Innovation Centre, University of Delhi	Shivani Rupam Shriya Simran	Ms. Saumya Chaturvedi and Ms. Ms Prabhjot Kaur Sabharwal
Development of Osmotically Dehydrated Low Cost Novel Fruit Product Using Star Fruit	Idea Competition, Delhi University Innovation Council, Cluster Innovation Centre, University of Delhi	Anjali Gautam Nisha Prachi Agarwal	Dr. Ranjana Singh and Ms. Saumya Chaturvedi
Is this Failure of government agencies in Implementation of the food safety laws?	International conference Shyama Prasad Mukerjee college (University of Delhi)	Deepa Yadav	Mr. Twinkle Kumar Sachchan
Beetroot powder: It's potential uses and application	International conference, Poster Presentation, Shyama Prasad Mukerjee college (University of Delhi)	Akansha Ghosh Atisha Bhattacharjee Jagriti Nandi	Ms. Saumya Chaturvedi and Ms Vandana
Osmotic dehydration of Bell pepper	International conference, Poster Presentation, Shyama Prasad Mukerjee college (University of Delhi)	Divya Sahu Mansi Maurya Roopa Sharma	Ms. Saumya Chaturvedi and Ms Vandana
Impact of different Cavity Structures on Bio-Sensing Response of Junctionless FinFET	4 th ICEE- International Conference on Emerging Electronics, 16 th - 19 th December, 2018, Bangalore, India.	Ms. Himani Dua Sehgal	Ms. Himani Dua Sehgal
Analysis of Interface Trap Charges of Double gate Junctionless Nanowire Transistor (DG-JNT) for Digital Circuit Applications "	IEEE Electron Device Kolkata Conference (2018 IEEE EDKCON)", organized by IEEE EDS Kolkata Chapter from	Dr. Sneha Kabra	Dr. Sneha Kabra

	November 24-25, 2018 at Kolkata		
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7. Training received by faculty from participating departments:

Name of Faculty	Host Institute	Area of training
Dr. Indu Arora	ARSD college	Participated in Faculty Development Program on Sustainable Development, (15 th Oct, 2018 to 22 nd Oct, 2018)
Ms. Para	Shaheed Rajguru College	ISO 22000 Food Safety management systems
Ms. Saumya	Shaheed Rajguru College	ISO 22000 Food Safety management systems
Ms. Vandana	Shaheed Rajguru College	ISO 22000 Food Safety management systems
Ms. Prabhjot	Shaheed Rajguru College	ISO 22000 Food Safety management systems
Mr. Twinkle Kumar Sachchan	Shaheed Rajguru College	ISO 22000 Food Safety management systems



ISO 22000 Food Safety Management Systems Workshop in collaboration with QCI (Quality Council of India)

8. List of exhibitions/seminars/training courses conducted by the college:

- The Department of Biomedical Science, Food Technology and Instrumentation organised One month Summer Internship workshop (4th June 2018-1st July 2018) on “Analytical Instrumentation Food Processing & Life Science Techniques” under the aegis of DBT star college scheme.

- Organized a one-day workshop entitled “**Document Verification: A Forensic Perspective**” on 11th June 2018 in the college premises. The event was jointly sponsored by DBT star college scheme and Internal Quality Assurance Cell (IQAC) of the college. The key objective of the workshop was to create awareness among officials of colleges/universities to identify document forgery in admission process such as fake marksheet, certificates and caste certificates, as well as in their day today life. The 62 workshop participants represented over 50 organizations, including various colleges all over the nation.
- The Department of Biomedical Science organised **ALUMNI INTERACTION-** Ms. Kanika Bansal alumnae of the Department of Biomedical Science (2011-2014) gave lecture on Genetic Counselling on 9th August 2018.
- The Food Technology Department organized a seminar on ‘**Entrepreneurial skills**’ by **Professor S. K. Palhan** on 10th August 2018.
- The Department of Food Technology organized a seminar on “Career and growth aspects of Food Technology” on 13th September 2018.
- The Department of Food Technology organized hands on training on **World Heart Day on 28th September, 2018**. The Keynote speakers were Ms Neelima Raj, Ms Bushra Ansari and Ms Taranjeet Kaur.
- The Department of Food Technology organized a seminar to celebrated “**World Food day**” on **11th October 2018**. The keynote speakers were Mrs Deepti Gulati and Dr. Siddharth Waghulkar.
- Inter-college technical fest, “**Technexus**” was organized on 11th and 12th **October, 2018**. The fest included a total of 6 events. More than 150 students registered for the different events with a significant participation of students from different colleges.
- An invited talk on “**Recent trends in VLSI technology and layout design**” by **Mr. Neeraj Kapoor** (Layout Design Engineer), Senior Staff from Synopsys India Pvt Ltd. was organized on 12th October. About 100 participants, including the faculty and students attended the talk.
- The Technical fest was organized on 12th October 2018 with ‘**DIAGNOSTICS**’ as its theme. Plexus witnessed the presence of illustrious speakers like Dr. B.C. Koner (Director, Professor of Biochemistry, Maulana Azad Medical College) and Professor Farhan Jalees Ahmad (Dean, Interdisciplinary Sciences and Technology, Jamia Hamdard). **This year the department issued its first e-magazine on topic Nanosciences.**
- Department of Instrumentation in collaboration with Robotics Club of Shaheed Rajguru College of Applied Sciences for women successfully conducted three days **Lecture Series** on “**Artificial Intelligence and Robotics**”. RN Dr. Mgr. Jiri Martinu, Erasmus Fellow, Department of Informatics and Applied Mathematics, Silesian University, Opava, Czech Republic delivered the Lecture series **from**

February 6-8, 2019. 107 students and college faculty members of the department of Instrumentation, Electronics, Computer Science and Physics, attended the three-day technical talk.

- World Cancer day symposium was organized by Department of Biomedical Sciences, Shaheed Rajguru College of Applied Sciences, University of Delhi, held on 4th February 2019 in the college Auditorium. The first lecture was delivered by Prof Subrata Sinha, Head, and Department of Biochemistry (AIIMS) on the topic, “Introduction to Cancer”. This was followed by a lecture on “Hallmarks of Cancer” by Prof S.S Chauhan, Department of Biochemistry (AIIMS). Dr Jayant Kumar, Department of Biochemistry (AIIMS) then enlightened the students on, “The role of Basic Sciences in Cancer therapy”. Dr. Prasenjit Das from the Department of Pathology (AIIMS), delivered a lecture on, “Cancer: Molecular Epidemiology and Pathology”. This was followed by Dr Sameer Bakhshi’s (Department of Medical Oncology) (AIIMS) talk, which gave a clinician's perspective on the “Treatment and Prevention of Cancer”.
- The Department of Food Technology in collaboration with **Quality council of India** conducted one day certificate course on “ISO 22000 Food Safety management systems” on **6th March 2019 and 15th March 2019.**
- The Department of Biomedical Science organized UGC sponsored three day National workshop on “Alternative Methods in Animal Testing” from 27th- 29th March, 2019 in College SRG.
- Organized elections for departmental council and an **EVM machine** made by the students and faculty of the department was successfully put to use for voting.
- An excursion trip to ‘**Mojoland**’, **Sonipat Haryana on 29th March 2019** was organized with students and faculty of the department.

Out Reach Activity

The Department of Food Technology is involved actively in “**Enactus**” working for the cause of social entrepreneurship. Under this two areas are undertaken

1. A group of **transgender** is trained every week in food processing and preservation. They have got skills to prepare products like apple jam, pineapple squash, amla preserve, candies, flavored milk, pizza base, cakes, cookies etc.
2. Some students of management department and transgenders are provided pilot plant, bakery unit to prepare special cookies under project “**SEHEJ**”. The department bears the financial and logistics aspects



3. The college has adopted five villages in Delhi-NCR with an objective of upliftment of villagers and villages. The students from the Star DBT participating department are actively involved.



Training offered to outside college students

1. Ms. Anshika Gupta, B. Tech Biotechnology, 4th year, Amity University underwent summer training on the project entitled “ Molecular Docking study of phytoconstituents of Adhatoda vasica in search of natural antitubercular agent” from 15th May, 2018 to 6th July, 2018 under the guidance of Dr. Manisha Khatri.
2. Ms. Manya Arora, B.Sc.(H) Biotechnology 3rd year, Amity university, underwent Graduate training on Molecular Biology Techniques from 1st sept, 2018 to 31st Dec, 2018 under the guidance of Dr. Manisha Khatri.
3. Ms. Shivani Gupta, B.Tech + M.Tech (Biotechnology) Dual Degree 4th year Amity University underwent major project training on the project entitled “ Phytochemical analysis of ethyl acetate extract of justicia adhatoda leaves and its antimycobacterial activity, from 15th February, 2019 to 7th April, 2019, under the guidance of Dr. Manisha Khatri.

4. Ms. Gursimran Sekhon, B.Tech + M.Tech (Biotechnology) Dual Degree 4th year Amity University underwent major project training on the project entitled “Phytochemical analysis of hexane extract of justicia adhatoda leaves and its antimycobacterial activity, from 15th February, 2019 to 7th April, 2019, under the guidance of Dr. Manisha Khatri.
5. The Department of Food Technology in collaboration with **Quality council of India** conducted one-day certificate course on “ISO 22000 Food Safety management systems” on 6th March 2019 and 15th March 2019 and trained the students from Lady Irwin College and IGNOU Centre.



9. Name, designation, host institute of guest faculty invited:

Name	Designation	Host Institute	Duration of Visit	Topic of Lecture/Discussion
Prof. S. K. Palhan	Professor at Great Lakes Institute of Management, Gurgaon	Shaheed Rajguru College	10 th August 2018	Entrepreneurial skills
Mr. Rohit Gogia	MD, Gogia Flavors	Shaheed Rajguru College	13 th Sept, 2018	Career and growth aspects of Food Technology
Ms. Meenakshi Taneja	Head, QA Gogia Flavors	Shaheed Rajguru College	13 th Sept, 2018	Career and growth aspects of Food Technology
Mr. Sumit Singh	CEO, Diosiv Healthy Food Pvt. Ltd.	Shaheed Rajguru College	13 th Sept, 2018	Career and growth aspects of Food Technology
Ms. Trishala Verma	Patent Office, New Delhi	Shaheed Rajguru College	13 th Sept, 2018	Career and growth aspects of Food Technology
Ms. Richa Bharti	Pepsico, Gurgaon	Shaheed Rajguru College	13 th Sept, 2018	Career and growth aspects of Food Technology
Mr. Kunal Bhaita	CEO, Rural Roots	Shaheed Rajguru College	13 th Sept, 2018	Career and growth aspects of Food Technology

Dr. Amit Kumar Yadav	Scientist, DDRC, THSTI	Shaheed Rajguru College	14 th Sept, 2018	Interrogating diseases using mass spectrometry proteomics
Dr. Sanjay Banerjee	Scientist, DDRC, THSTI	Shaheed Rajguru College	14 th Sept, 2018	Drug Discovery in Academic Institutions in India
Dr. Samrat Chaterjee	Scientist, DDRC, THSTI	Shaheed Rajguru College	14 th Sept, 2018	Mathematics in Biology
Ms Neelima Raj	Senior Nurse, AIIMS,	Shaheed Rajguru College	28 th Sept, 2018	World Heart Day
Ms Bushra Ansari	PhysioTherapist	Shaheed Rajguru College	28 th Sept, 2018	World Heart Day
Ms Taranjeet Kaur	Nutritionist	Shaheed Rajguru College	28 th Sept, 2018	World Heart Day
Mrs Deepti Gulati	Project head, GAIN WHO	Shaheed Rajguru College	11 th Oct, 2018	World Food day
Dr. Siddharth Waghulkar.	Nutrition Officer world food programme	Shaheed Rajguru College	11 th Oct, 2018	World Food day
Dr. B.C. Koner	Director, Professor of Biochemistry, Maulana Azad Medical College	Shaheed Rajguru College	12 th Oct, 2018	Role of Diagnostics in Diabetes detection
Professor Farhan Jalees Ahmad	Dean, Interdisciplinary Sciences and Technology, Jamia Hamdard	Shaheed Rajguru College	12 th Oct, 2018	Diagnostics in Detection
Mr. Neeraj Kapoor	Senior Staff, Synopsys India Pvt Ltd.	Shaheed Rajguru College	12 th Oct, 2018	Recent trends in VLSI technology and layout design”
Prof. SP Singh	Former Prof and Head Department of Biochemistry, MLB Medical College, Jhansi	Shaheed Rajguru College	18 th Jan, 2019	Career prospects in biological sciences
Prof Subrata Sinha,	Head, and Department of Biochemistry (AIIMS)	Shaheed Rajguru College	4 th Feb, 2019	Introduction to Cancer
Prof S.S	Department of	Shaheed	4 th Feb,	Hallmarks of

Chauhan	Biochemistry (AIIMS)	Rajguru College	2019	Cancer
Dr Jayant Kumar	Department of Biochemistry (AIIMS)	Shaheed Rajguru College	4 th Feb, 2019	The role of Basic Sciences in Cancer therapy
Dr. Prasenjit Das	Department of Pathology (AIIMS)	Shaheed Rajguru College	4 th Feb, 2019	Cancer: Molecular Epidemiology and Pathology
Dr Sameer Bakhshi	Department of Medical Oncology (AIIMS)	Shaheed Rajguru College	4 th Feb, 2019	Treatment and Prevention of Cancer
Dr. Guruprasad Medigeshi	Scientist, VDRC, THSTI	Shaheed Rajguru College	5 th Feb, 2019	Mosquito borne viral infections
Dr. Nisheeth Agarwal	Scientist, VDRC, THSTI	Shaheed Rajguru College	5 th Feb, 2019	Gene silencing by CRISPR interference in mycobacteria
Dr. Milan Surjit	Scientist, VDRC, THSTI	Shaheed Rajguru College	5 th Feb, 2019	Virology: Importance in human health management, scope and prospects
Dr. Amit Kumar Pandey	Scientist, VDRC, THSTI	Shaheed Rajguru College	5 th Feb, 2019	Scientific Leadership: Opportunities and Challenges
Dr. Krishnamohan Atmakuri	Scientist, VDRC, THSTI	Shaheed Rajguru College	5 th Feb, 2019	TB Vaccines: conundrum of sorts
Dr. Sankar Bhattacharya	Scientist, VDRC, THSTI	Shaheed Rajguru College	5 th Feb, 2019	Inflammation and viral disease
Dr. Mgr. Jiri Martinu,	Erasmus Fellow, Department of Informatics and Applied Mathematics, Silesian University, Opava, Czech Republic	Shaheed Rajguru College	6 th -8 th February, 2019.	Artificial Intelligence and Robotics
Prof. Bal Ram Singh	Director, Botulinum Research Center, Dartmouth (USA)	Shaheed Rajguru College	12 th February, 2019	Innovation and Entrepreneurship in modern era
Dr. Unnat Pandit	Head of Operations, Atal Innovation	Shaheed Rajguru	12 th February,	Innovation and Entrepreneurship in

	Mission, NITI Ayog	College	2019	modern era
Mr. Vivekanand C	Food Safety Head- Western Region, Quality Council of India, New Delhi	Shaheed Rajguru College	6 th March 2019 and 15 th March 2019.	ISO 22000 Food Safety management systems
Prof. G. P. Talwar	Padma Bhushan, Formar Director, NII	Shaheed Rajguru College	27 th March, 2019	Overview of Alternative methods to animal testing
Prof. Vani Brahmachari	Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi	Shaheed Rajguru College	27 th March, 2019	Alternative models for the testing of drugs
Prof. Suhel Parvez	Department of Medical Elementology and Toxicology, Jamia Hamdard University, Delhi	Shaheed Rajguru College	27 th March, 2019	Models and Mechanisms of β -Amyloid Induced Alzheimer's disease
Prof. B. Jayaram	Department of Chemistry & School of Biological Sciences, IIT Delhi. Coordinator, Supercomputing Facility for Bioinformatics and Computational Biology (SCFBio), IIT Delhi.	Shaheed Rajguru College	28 th March, 2019	Protein tertiary structure prediction via chemistry and informatics based methods
Prof. Indira Ghosh	School of Computational and Integrative Sciences, Jawaharlal Nehru University, Delhi	Shaheed Rajguru College	28 th March, 2019	Computational Approach as the Alternative method to Animal Testing
Dr. Madhu Chopra	Associate Professor, Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi	Shaheed Rajguru College	28 th March, 2019	Computational methods as a tool for testing
Dr. Anshu Bhardwaj	Senior Scientist, Institute of Microbial Technology, Assistant Professor, The Academy of Scientific & Innovative Research (AcSIR), Council of Scientific and	Shaheed Rajguru College	29 th March, 2019	Drug Metabolism Networks: Case study from Tuberculosis to evaluate drug-drug interactions

	Industrial Research (CSIR), Adjunct Faculty, Public Health Foundation of India, Chandigarh, India			
Dr. V L Kumar	Professor and Head, Department of Pharmacology AIIMS	Shaheed Rajguru College	29 th March, 2019	3D cell culture system
Dr. Dipti M Kapoor	Science Policy Advisor, PETA India	Shaheed Rajguru College	29 th March, 2019	Alternatives to use off animals in regulatory and toxicology research
Dr. R. S. Ray	Scientist, Indian Pharmacopeia Commission	Shaheed Rajguru College	29 th March, 2019	Pharmacovigilance

10. Date of Advisory committee meeting:

11. List of New Practical's /demonstrations introduced in different departments in last one year

Department of Biomedical Science

- Demonstration of *in vitro* animal cell culture techniques including sub-culturing. (Teachers Name: Dr. Manisha Khatri) Number of students: 10
- Demonstration of animal cell viability assay using trypan blue dye method. (Teachers Name: Dr. Manisha Khatri) Number of students: 10
- Pedigree analysis of forty genetic traits, some of which were autosomal and some were sex linked. (Teachers Name: Dr. Shruti Banswal) Number of students: 30
- Analysis of dominant and recessive alleles of PTC tasting in a population of 100 students. (Teachers Name: Dr. Shruti Banswal) Number of students: 30

Department of Food-Technology

- Production of Ricotta Cheese (Teachers name: Mr. Twinkle Kumar Sachchan) B.Sc.(H) Food Technology IV sem, Number of students: 38
- Implemented Fruit based Product Line Extension (Teachers name: Ms. Saumya Chaturvedi) B.Sc.(H) Food Technology II sem, Number of students: 28
- Estimation of moisture content by vacuum oven (Teachers Name: Dr Ranjana Singh) B.Sc.(H) Food Technology V sem, Number of students: 32
- Implemented Value added Product Line Extension (Teachers name: Ms. Ranjan Singh) B.Sc.(H) Food Technology II sem, Number of students: 32
- Implemented Egg Based product Line Extension (Teachers name: Ms. Prabhjot Kaur Sabharwal) B.Sc.(H) Food Technology IV sem, Number of students: 38

Department of Instrumentation

- a. Designing of a DC voltmeter using milliammeter (Teachers name: Ms. Neha Garg) B.Sc.(H) Food Technology IV sem.
- b. WATER LEVEL INDICATOR USING TRANSISTOR (Teachers name: Ms. Neha Garg) B.Sc. (H) Food Technology IV semester.

12. Details of equipment purchased in each department from DBT grant. (item, no., cost, date of order placed, purchase/installation)

Department	Equipment purchased in 2018-2019
Department of Biomedical Science	NA
Department of Food Technology	NA
Department of Instrumentation	NA

13. Details of books & journals subscribed from DBT grant.

Department	Books and journal subscription
Department of Biomedical Science	NA
Department of Food Technology	NA
Department of Instrumentation	NA

14. Qualitative improvements due to DBT support

- It has enabled the college to improve teaching and learning resources, outreach and inclusivity, research practices. Due to this, we are ranked at prestigious number **31** by **NIRF** in 2019. The College already attain NAAC 'A' grade in 2015 and hope to retain it with a improved score in 2020. The DBT has played a significant role in this
- The student related research activity has improved and the projects done by students are accepted for presentation as well as recognize by **Delhi University cluster innovation Centre**. Few such projects are under consideration by MHRD.
- There is a steady improvement in graduation outcome and it is almost 100% in all departments.
- Student's visits to various industries give them the first hand experience of working of Industry.
- Due to the financial support from DBT many teachers are able to attend and participate National and International Conferences.

15. Problems faced, if any, in implantation of the programme and utilization of DBT grant

Nil