



## Department of Chemistry

Bhaskaracharya College of Applied Sciences  
(University of Delhi)  
Sec -2, Phase - 1, Dwarka, New Delhi -110075

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

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

### About the Department

It is worth mentioning that B.Sc.(H) in Chemistry course commenced from the year 2017-18. In all 69 students were enrolled. The result was overwhelmingly 100%. The chemical society 'ALCHEMY' was inaugurated on 6<sup>th</sup> September 2017. The society organised many events viz. seminars, invited lectures/ talks, excursion and a One day chemistry fest 'Colors of Chemistry'.

## Department of Chemistry, BCAS, Dwarka

The Department has its own Blog (<http://bcaschem.blogspot.in/?m=1>) and at present 5869 visitors have visited the blog site. A Google-page, Email and WhatsApp group of the Department of Chemistry is also functional. The Department has a task force “**Bhaskaracharya Environmental and Sustainability Taskforce (BEST)**” whose primary objective is to preserve and enhance the environmental activity so as to achieve healthier environment

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

### Admission Eligibility Criteria

- ❖ The overall percentage in Physics, Chemistry and Mathematics (PCM) should be 55% and one compulsory language should be 50%

### Faculty Details

| S.No | Name of Faculty                                 | Qualifications | Specialization                                 |
|------|-------------------------------------------------|----------------|------------------------------------------------|
| 1)   | Dr. Lalit Kapur<br>( <i>Teacher in-Charge</i> ) | Ph.D. (D.U.)   | Inorganic Chemistry                            |
| 2)   | Dr. Balaram Pani                                | Ph.D. (J.N.U.) | Inorganic Chemistry<br>Environmental Chemistry |



Information about Department of Chemistry BCAS, Dwarka, New Delhi 75. Any information given here is subjected to change as per the guidelines of DU as and when received

| <b>Semester-wise distribution of Courses under CBCS (Revised)</b>                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                                               |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------------|
| <b>SEMESTER I</b>                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>SEMESTER II</b> |                                               |
| <b>C1</b>                                                                                                      | Inorganic Chemistry-I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>C3</b>          | Organic Chemistry-I                           |
| <b>C2</b>                                                                                                      | Physical Chemistry-I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>C4</b>          | Physical Chemistry-II                         |
| <b>AECC1</b>                                                                                                   | English communication/Environmental Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>AECC2</b>       | English communications/ Environmental Science |
| <b>GE1</b>                                                                                                     | Generic Elective                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>GE2</b>         | Generic Elective                              |
| <b>SEMESTER III</b>                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>SEMESTER IV</b> |                                               |
| <b>C5</b>                                                                                                      | Inorganic Chemistry-II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>C8</b>          | Inorganic Chemistry-III                       |
| <b>C6</b>                                                                                                      | Organic Chemistry-II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>C9</b>          | Organic Chemistry-III                         |
| <b>C7</b>                                                                                                      | Physical Chemistry-III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>C10</b>         | Physical Chemistry-IV                         |
| <b>SEC1</b>                                                                                                    | Skill-Enhancement Elective Course                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>SEC2</b>        | Skill-Enhancement Elective Course             |
| <b>GE3</b>                                                                                                     | Generic Elective                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>GE4</b>         | Generic Elective                              |
| <b>SEMESTER V</b>                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>SEMESTER VI</b> |                                               |
| <b>C11</b>                                                                                                     | Organic Chemistry-IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>C13</b>         | Inorganic Chemistry-IV                        |
| <b>C12</b>                                                                                                     | Physical Chemistry-V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>C14</b>         | Organic Chemistry-V                           |
| <b>DSE1</b>                                                                                                    | Discipline Specific Elective                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>DSE3</b>        | Discipline Specific Elective                  |
| <b>DSE2</b>                                                                                                    | Discipline Specific Elective                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>DSE4</b>        | Discipline Specific Elective                  |
| <b>Abbreviations used for Course</b>                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                                               |
| <b>C</b>                                                                                                       | Core Course                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                                               |
| <b>AECC</b>                                                                                                    | Ability Enhancement compulsory Course                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                               |
| <b>GE</b>                                                                                                      | Generic Elective course                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                                               |
| <b>SEC</b>                                                                                                     | Skill Enhancement Elective Course                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                               |
| <b>DSE</b>                                                                                                     | Discipline Specific Elective course                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                                               |
| <b>SEC: Skill-Enhancement Elective Courses</b><br><i>(any one paper per semester in semesters 3rd and 4th)</i> | <ol style="list-style-type: none"> <li>1. IT Skills for Chemists</li> <li>2. Basic Analytical Chemistry</li> <li>3. Chemical Technology &amp; Society</li> <li>4. Chemoinformatics</li> <li>5. Business Skills for Chemists</li> <li>6. Intellectual Property Rights</li> <li>7. Analytical Clinical Biochemistry</li> <li>8. Green Methods in Chemistry</li> <li>9. Pharmaceutical Chemistry</li> <li>10. Chemistry of Cosmetics &amp; Perfumes</li> <li>11. Pesticide Chemistry</li> <li>12. Fuel Chemistry</li> </ol> |                    |                                               |

## Department of Chemistry, BCAS, Dwarka

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|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|------------|------------|
| <p><b>DSE:</b> Discipline Specific Elective<br/><i>(any two paper per semester in semesters 5th and 6th)</i></p>                 | <p style="text-align: center;"><b>(DSE- 1)</b></p> <ol style="list-style-type: none"> <li>1. Novel Inorganic Solids</li> <li>2. Inorganic Materials of Industrial Importance</li> </ol> <p style="text-align: center;"><b>(DSE 2 -4)</b></p> <ol style="list-style-type: none"> <li>3. Applications of Computers in Chemistry</li> <li>4. Analytical Methods in Chemistry</li> <li>5. Molecular Modelling &amp; Drug Design</li> <li>6. Polymer Chemistry</li> <li>7. Research Methodology for Chemistry</li> <li>8. Green Chemistry</li> <li>9. Industrial Chemicals &amp; Environment</li> <li>10. Instrumental Methods of Analysis</li> <li>11. Dissertation</li> </ol> |           |           |            |            |
| <p style="text-align: center;"><b>GE :</b> Generic Electives<br/><i>(any one paper per semester in semesters 1st to 4th.</i></p> | <p><b>GE1:</b><br/>Atomic Structure, Bonding, General Organic Chemistry &amp; Aliphatic Hydrocarbons</p> <p><b>GE3:</b><br/>Solutions, Phase Equilibrium, Conductance, Electrochemistry &amp; Functional Group Organic Chemistry<br/><b>(For academic Year 2020-21)</b></p>                                                                                                                                                                                                                                                                                                                                                                                                |           |           |            |            |
| <b>Category wise seat distribution</b>                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |           |            |            |
| <b>Total Seats</b>                                                                                                               | <b>UR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>SC</b> | <b>ST</b> | <b>OBC</b> | <b>EWS</b> |
| 40                                                                                                                               | 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 6         | 3         | 11         | 4          |