



Short term Course On
“Green Chemistry and Nano Technology”
(November 23-28, 2015)

**Organized by UGC-HRDC and Department of Chemistry,
Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) 495 009**

Introduction:

Chemistry is a central science that creates its own objectives. Some materials like plastics, medicines, which changed the face of our world in the 21st century, did not exist until a chemist prepared them for the first time. There is no doubt about the benefits of chemistry in furnishing us with useful products that are so vital to the comfort and convenience of our daily lives. But we can no longer continue to reap these benefits at the expense of the environment. Now we have to take on the challenge of preparing these products through non-pollutive processes, following the principles of Green Chemistry. Green Chemistry is the design of chemical products and processes that reduce or eliminate the use and generation of hazardous substances. Green chemistry efficiently utilises (preferably renewable) raw materials, eliminates waste and avoids the use of toxic and/or hazardous reagents and solvents in the manufacture and application of chemical products. Green chemistry is therefore directly bound up with the principle of sustainability as well as atom economy. The goal of sustainability will be obtained with new technologies that furnish society with the products we depend on in a more environmentally friendly way.

Nanotechnology is one of the most emerging research areas of current science. Nanoscience is the study of phenomena at atomic, molecular and macromolecular scales where properties differ significantly from those at a larger scale. Most benefits of nanotechnology depend on the fact that it is possible to tailor the essential structures of materials at the nanoscale to achieve specific properties, thus greatly extending the well-used tool kits of materials and biological science. Using nanotechnology, materials can effectively be made to be stronger, lighter, more durable, more reactive, more sieve-like, or better electrical conductors, among many other traits. There already exist commercial products that rely on nanoscale materials and processes including in the electronics, catalysis, adsorption, medicine, sensors and also in the storage of gas molecules like hydrogen and others. Nanoscale transistors and TV display, laptop displays are advanced progress towards the development of nanotechnology.

Objectives:

The Short Term Course Will Enable To:

- Provide openings for teachers in service to discuss and share the recent development in Green Chemistry and Nano Technology and to exchange experience with their peers.
- Create the culture of learning and self-improvement among the teachers and scientists in industries/institutes
- Provide platforms to further widen their knowledge and to pursue research studies and Give an introduction to new methods and innovations in higher education and enlighten recent advancements of Green chemistry and Nano technology.

About Human Resource Development Centre (HRDC):

UGC-Academic Staff College (ASC), presently known as Human Resource Development Centre (HRDC) was initially established in Guru Ghasidas Vishwavidyalaya (A Central University) during 2009. HRDC is organising various kinds of training programmes to enhance the professional skills and knowledge of teaching and non-teaching staff. The HRDC has the state of the art ICT Laboratory equipped with high speed internet & video conferencing facilities. The facilities of Central Library of Vishwavidyalaya, equipped with more than one lakh books and journals, Science Direct and INFLIB NET, have been extended to HRDC, which make possible an easy access to books, journals and e-resources for faculties. The HRDC has developed strong linkages with reputed national and international institutes and invites eminent academicians and researchers as resource persons as per the needs of the training programmes. The highly motivated faculty, eminent resource persons, state of the art facilities and excellent logistics are the strengths of HRDC and key to the successful organisation of many quality programmes.

About Department of Chemistry:

The Department of Chemistry was established in the year 2009 with an objective of providing quality education in the conventional areas of science to the rural and sub-urban students of Chhattisgarh state. Gradually it is growing into a center of excellence for teaching and research and trying to acquire prominent position in the academic map of India. The Department offers both UG and PG level advanced courses in Chemical Sciences along with an integrated 5 years Master programme with exit option after completing 3 years B. Sc. (Hon's). The Department is also offering a Ph. D. programme in frontier areas of Chemical Sciences. Four major specialized courses like Organic Chemistry, Inorganic Chemistry, Physical Chemistry, and Analytical Chemistry are offered in M. Sc. course. The department is also conducting the B. Tech. (IT) chemistry courses, where almost 500 students are studying. The students are monitored and evaluated by regular class tests, seminars, assignments, mid and end-semester examinations. High percentage of students qualifies UGC-CSIR NET, GATE and SLET exams. Currently, thirty research scholars are working in the Department. The department is having eleven regular well qualified faculty members and well equipped laboratory with sophisticated instruments. The faculty members are actively engaged in various significant research projects of thrust areas in chemistry, supported by UGC, DST, DBT and CSIR etc. funding agencies. The Department has successfully organized one Refresher Course and one Science Academies Lecture Workshop in 2015.

Eligibility and Application of Participants:

1. The teachers who belong to Chemical Sciences and its allied subjects are eligible to apply for the course.
2. Selection will be made as per the guidelines of the UGC-HRDC and on first come first serve basis.
3. The last date of receiving application is 16th November, 2015.
4. Limited number of accommodations are available in HDRC.

The candidates need to apply through proper channel in prescribed application format which can be downloaded from university web site: www.ggu.ac.in. A Demand draft (Any Nationalized bank) of Rs. 1000/- drawn in favour of Director, UGC-HRDC, GGV, Bilaspur (C.G.) is to be attached along with the application form. Applications without DD will not be considered. **The participants will be paid TA & DA as per the norms of UGC.**

Bilaspur city of Chhattisgarh is well connected by rail and roadways. Regarding any further queries related to the course and other details, please contact the Course Coordinator and Director.

Course Coordinator:

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Asst. Course Coordinator:

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Course Director:

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