



**DYAL SINGH COLLEGE**  
in collaboration with



**SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH**  
is offering

**Certificate Courses**  
**on**  
**Drugs and Pharmaceutical Analysis**

20<sup>th</sup> March 2023-19<sup>th</sup> March 2024



**Course Coordinator**

**Dyal Singh College**

**Shriram Institute For Industrial Research**

**Prof. Amita Malik : Course Coordinator**

**Dr.Jagdish Kumar : Program Coordinator**

**Prof. Alka Gupta : Director, IQAC**

**Dr.Manesh Rawat : Course coordinator**

**Prof.V.K.Paliwal : Principal & patron**

**Dr. Mukul Das : Director & patron**

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## Preamble

The Department of Chemistry, Dyal Singh College, University of Delhi has initiated a certificate course entitled, “ Drugs and Pharmaceutical Analysis”.

The course will be conducted in collaboration with Shriram Institute for Industrial Research (SRI), a Unit of Shriram Scientific and Industrial Research Foundation). SRI is one of the pioneer’s in the areas of industrial importance and is a self-sustaining organization supporting wide-spectrum of National and International stakeholders. SRI has diversified facilities and infrastructure to carry out research as well as testing. The course structure has been designed to cover various aspects related to the above subject. This brochure illustrates subject specific modules to be covered in the course. The course will include practical training and also industrial visit so that the students may have an exposure of the various aspects of drugs and pharmaceuticals analysis. The certificate courses will be beneficial to the students with chemistry background

## Brief Insight of Course

As a signatory to the 2030 Agenda for Sustainable Development, India is committed to participate in the international review of the progress of Sustainable development Goals (SDGs) on a regular basis. The Goal-3 of SDGs mandates “Ensuring healthy lives and promoting well-being at all ages is essential to sustainable development”. Drugs and pharmaceutical plays important role in ensuring healthy lives and well-being of all. Quality Control and Testing are the essential pre-requisites of Drugs and Pharmaceutical production. The main objective of quality control in Pharmaceutical Industry is to test drugs and allied products during various stages of production and verifying that product qualifies to proceed to next stage of manufacturing process in accordance to the regulations and specifications required for consumption. Keeping in view of these objectives, a collaborative certificate course and advanced practical training, is being commenced by Dyal Singh College, University of Delhi and Shriram Institute for Industrial Research, Delhi. The course content for collaborative certificate course and advanced practical training has been designed keeping in view of the objectives of quality control requirements in pharmaceutical sector.

## Duration of Course

Certificate Course (Basic-B) : 12 Weeks (Theoretical and Practical training \*\*)

Certificate Course (Advanced-AB) : 12 B+12 Weeks (Advanced Module\*\*\*)

\*\* Practical Modules will be conducted at Shriram Institute for Industrial Research

\*\*\*Independent projects will be assigned to the students and the research will be undertaken at Shriram Institute for Industrial Research.

**Participants can go for advanced module only after completion of the basic course**

## Batch Size

- Batch size for certificate course would be maximum 30 students in one batch (1<sup>st</sup> batch to commence from March-2023).
- Batch size for Advanced Practical Training would be maximum 10 students to be selected based on the merit of certificate course.

## Who can apply?

Undergraduate and Postgraduate Students; PhD Research Scholars with Chemistry background

## Benefits of the Course

The advanced certificate course and practical training would keep the students abreast about the concept of quality control and testing with professional knowledge on the process. This would help students to develop thought process beyond state-of-the-art to visualise career dimensions on completion of their academic course.

## Course Content

The certificate course comprised of following modules:

1. Overview of Drug & Pharmaceuticals inclusive of pharmacokinetics & pharmacodynamics.
2. Drug Toxicity
3. Efficacy of drug with respect to target specific organ or tissue.
4. Test methods and Process Standardization for drug analysis.
5. Instrumental applications in drug analysis.
6. Overview of medical devices and pharmaceutical packaging material
7. Importance of analytical method development and validation
8. Measurement Uncertainty in Drug Analysis.
9. Microbiological studies of pharmaceutical products
10. Overview of alternate medicines including Ayurveda and Unani.
11. Environmental and Occupational Safety Aspects of pharmaceutical production and laboratory analysis.
12. Quality Management System for Drug Analysis Laboratory.

## Dyal Singh College

The Dyal Singh College, University of Delhi is a NAAC Grade A with CGPA 3.15; NIRF Rank 35 (2022). The vision of the college is guided by the will of its founder Sardar Dyal Singh Majithia. The aim of the college is to provide and disseminate a sound liberal education of highest standards and promote overall physical, mental, and moral well-being of all stakeholders to empower them to contribute whole-heartedly in nation-building and to serve humanity as socially responsible global citizens. The mission of college includes

- ◆ To mentor students in their academic, research, and co-curricular pursuits so as to realise their true potential.
- ◆ To mentor students to be sensitive and compassionate to the needs of differently abled, less privileged, and be the protector of environment to ultimately become true global citizens.
- ◆ To promote diversity, ethical values, leadership etc. and provide enriching learning environment with ample co-curricular & social activities for an enhanced learning experience to usher a paradigm change in our world.

## Shriram Institute for Industrial Research

Shriram Institute for Industrial Research (SRI), a Unit of Shriram Scientific and Industrial Research Foundation, is an independent, self-sustaining, multi-locational contract research organization of international repute dedicated to support wide-spectrum of stakeholders through industrial research. The major thrust areas of SRI are

- ◆ Material Sciences including Radiation and TBI
- ◆ Biological Sciences,
- ◆ Environment Protection,
- ◆ Analytical Sciences
- ◆ Metals and Minerals
- ◆ Calibration

The SRI is a registered Scientific and Industrial Research Organisation (SIRO). The SRI is having eminent scientists, academicians and industrialists on its Board of Governors. The SRI is accredited by the NABL as per ISO/IEC-17025:2017 in addition to certifications as per ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 standards.

### **Dyal Singh College Faculty for this Program**

1. Prof. V.K.Paliwal, Principal & Chairperson
2. Prof. Alka Gupta, Director, IQAC
3. Prof. Amita Malik, Department of Chemistry

### **Faculty of Shriram Institute for Industrial Research for this Program**

1. Dr. Mukul Das, FNASc, FNAAS, FST; Director, SRI
2. Dr. Binu Bhat, Senior Assistant Director & Chief; HOD-ASD Bio-Division
3. Dr. Jagdish Kumar, Program Coordinator
4. Dr. Meenu Talwar, Course Coordinator
5. Mr. Manish Rawat, Course Coordinator
6. Dr. S.K. Nayak
7. Dr. D.P. Jain
8. Dr. Rajavally Prem
9. Dr. Krishna Bihari Sharma
10. Mr. Dushyant Singh
11. Dr. Amita Gaurav Dimri
12. Mr. Pawan Sharma
13. Ms. Neha Gupta
14. Mr. Pushpendra Tomar
15. Ms. Surabhi Gupta
16. Mr. Amit Singh



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