

School of Liberal Studies (SLS)
Dr B R Ambedkar University Delhi (AUD)
(Established by the Government of the National Capital Territory of Delhi)
Lothian Road, Kashmere Gate, Delhi- 110 006

PhD Programme (Mathematics)
2020 – 2021

School of Liberal Studies (SLS)

SLS is home to postgraduate studies and research in Economics, History, Sociology and Mathematics. It offers a range of interdisciplinary, diverse, and overlapping programmes that support, encourage and redefine liberal arts education through cutting-edge interdisciplinary courses, interactive pedagogy and learning that goes beyond classroom spaces.

PhD Programme in Mathematics

The existence of post-graduate programmes at a University is a must for the academic growth of faculty members and also for the academic growth of the discipline. It is therefore natural that research programmes in Mathematics are being envisaged. Guiding students and teaching courses in their areas of specialisation will not only ensure an organic development within their area of research for faculty members but will also ensure that the PhD programme a pool of well trained mathematicians is created.

Program Details and Requirements

- The PhD program strictly adheres to the rules and regulations of the University Grants Commission, as they are enforced and revised from time to time. The current regulations in force can be found [here](#).
- The PhD program is guided by the research studies ordinance and regulations of the University, which can be found [here](#).
- Minimum duration of three years and maximum duration is six years. Extensions and relaxations are applicable as per PhD Regulations 2021 that can be found [here](#).
- Doctoral candidates are required to complete a course work of 16 credits in the first year (two semesters) of admission, including course(s) on Research Methodology. Course work is prescribed by the Research Studies Committee (RSC) of the School.
- In the first semester, 8 credits of core courses in Differential and Integral Equations, Fractional Calculus, Group Theory, Module Theory and Research Methodology course for 2 credits will be offered. In the second semester the research scholar will be expected to complete two elective courses from those offered, worth 3 credits each. All PhD students will also have to complete a mandatory 2 credit course on Research and Publication Ethics.
- Candidates already holding M. Phil. degree and admitted to the Ph.D. programme, or those who have already completed the course work in M.Phil. and have been permitted to proceed to the Ph.D. in integrated course, may be exempted by the

School Research Studies Committee (RSC) from the Ph.D. course work. All other candidates admitted to the Ph.D. programme shall be required to complete the Ph.D. course work prescribed by the School.

- Participation in coursework presumes a scholar's residence in the Delhi region during the officially recognised academic year/ sessions and the scholar's regular attendance of classes and related exercises.
- Exceptions to the 'residency requirement' could be for scholars who are prescribed course work or 'pre-thesis learning activities of a kind that cannot be fulfilled at AUD or which the RSC specifically prescribes to be done in some other place/under special conditions.
- Other courses and pre-submission activities could be prescribed to a research scholar by the RSC, according to the scholar's particular research requirements.
- A doctoral supervisor is appointed from the School within a year of admission to the program. Experts and scholars with academic credentials from outside the School or university can be appointed as co-supervisors in case the candidate requires additional or specialized guidance.
- A Research Advisory Committee (RAC) is appointed for every candidate, with the supervisor as the convener of the committee. The RAC advises the candidate and monitors her/his/ their progress in the PhD program.
- Every candidate is expected to complete the six milestones of the PhD program
 - Course work
 - Presentation and defense of a research synopsis
 - Pre-submission presentation
 - Pre-submission requirements of conference presentations and publication
 - Production of an original thesis
 - Viva-voce examination of the PhD thesis

Fees

- Rs. 1,680/- per credit for Course Work, and
- Rs. 6,370/- per semester during Research/ Dissertation
- Rs. 500/- per semester for Student Welfare Fund
- Rs. 5,000/- as refundable Security Deposit
- Partial/full fee waivers are available as per University norms.

Stipend for Research Scholars

- At present, all PhD candidates who are not drawing any other scholarship/ fellowship are eligible for a stipend of Rs. 16,000/- per month for a maximum duration of three (03) years, subject to satisfactory work progress in every semester. The amount and duration may be revised by the University from time to time.
- "AUD Research Excellence Scholarship" will be awarded to 25 meritorious candidates in the University, commensurate with UGC-JRF (Social Sciences and Humanities) fellowships. Other scholarships and research internships may be announced by the university from time to time.

- PhD candidates may be employed as Teaching Assistants subject to need of the School and the approval of their supervisors and Chair RSC. Teaching Assistants will be paid a remuneration as per University norms.

Hostel

- AUD has about 40 seats for women candidates in its hostel at Kashmere Gate
- Details of admission to the hostel can be found [here](#).

Admission to the Ph.D. Programme (2020—2021)

Potential applicants to the PhD program are encouraged to familiarize themselves with research specializations at the School and get in touch with faculty members at the stage of applications. The research profiles of doctoral supervisors are available [here](#)

Areas of Research

- Algebra
- Analysis
- Differential Equations
- Mathematical Modelling

Seats

- Total 05 | UR 02 | OBC 01| SC 01| ST 01 | Foreign Student (Supernumerary) 01
- Reservations are as per rules of the university and orders of the Government of NCT of Delhi, as applicable from time to time.
- Candidates' proposed research should align with the specializations of Mathematics Programme faculty at SLS. The School reserves the right to decline admission to candidates in cases where the topic does not align with faculty specializations or the School does not possess the necessary infrastructural requirements/ laboratories.

Eligibility

- Candidates seeking admission in the PhD programme must have completed MA/MSc from a recognised University/Institute in Mathematics or a related subject declared equivalent to the Master's degree by the corresponding statutory regulatory body, with at least 55% marks in aggregate or its equivalent grade in the ten-point scale or an equivalent degree from or its equivalent grade 'B' in the UGC 7-point scale (or an equivalent grade in a point scale wherever grading system is followed) or an equivalent degree from a foreign educational Institution accredited by an Assessment and Accreditation Agency which is approved, recognised or authorised by an authority, established or incorporated under a law in its home country or any other statutory authority in that country for the purpose of assessing, accrediting or assuring quality and standards of educational institutions.
- A relaxation of 5% of marks, from 55% to 50%, or an equivalent relaxation of grade, is allowed for applicants belonging to SC/ST/OBC (non-creamy layer)/ Persons with Disability categories.

Procedure for Admission

- The admission to the PhD program is based on a two-stage process consisting of an Entrance Test and a Personal Interview.
- Applicants are required to submit an original SOP at the time of online application.
- **Statement of Purpose (SOP):** To be submitted at the time of application. It should include a well-articulated argument as to why the candidate wishes to pursue research at AUD. It should also include details on the area/s in mathematics in which the candidate wishes to pursue research.
- The SOP should not exceed 500 words. **Candidates' proposed research areas should be aligned with the specialisations of SLS (Mathematics) faculty.** Applicants are therefore encouraged to consult faculty profiles that can be found [here](#).
- The proposed area of research must align with the research interests of the faculty of the PhD programme.
- Applicants are required to apply online on the admissions portal of the University with relevant documents.
- In view of the Covid-19 pandemic, the admission process, entrance test and interview will follow the format (online or offline) as decided by the University from time to time. Applicants are strongly advised to regularly check the [University Admissions website](#) regularly for details, updates and modifications.
- The Entrance Test shall be qualifying with qualifying marks as 50%. The syllabus of the Entrance Test shall consist of 50% of research methodology and 50% shall be subject specific.
- The examination scheme is given as follow:
 - Duration: 3 hours
 - The exam question paper will have three parts:
 - Part A: Objective Questions In the objective part, there will be four choices for each question out of which only one option will be correct.
 - Part B: Subjective Question In this part, a candidate has to answer 4 questions.
 - One question each has to be attempted compulsorily from Algebra and Analysis and the remaining two questions from other fields.
 - Part C: Questions for this section will be exploratory in nature drawn from the areas of research in which supervision will be offered. The level of questions will require a thorough knowledge of a Master's level curriculum in Mathematics. The candidate will be expected to attempt two questions out of four.
- An interview will be organized for the qualified applicants. The applicants are required to discuss their research interest/ area through a presentation of their research proposal before the Ph.D. Programme Faculty and RSC. The interview/viva voce shall consider the following:
 - I. whether the applicant possesses competence in the proposed research area.
 - II. whether the research can be undertaken at the School.

III. whether the proposed area of research can contribute to new/additional knowledge in the field.

- The interview shall be based broadly on a Master's level curriculum, the written examination and the statement of purpose submitted.
- The Entrance Test shall be of 70% weightage and performance in the interview shall carry a weight of 30%.
- The interview, the Entrance Test and exemptions from the Entrance Test are guided by the Regulations Relating to the Award of Degree of Doctor of Philosophy, 2021 that can be found [here](#).

Important Dates

- The timelines related to the admissions process, date of Entrance Test and Personal Interview, and venue of the Test and Interview, and declaration of merit list will be announced on the University admissions website.

Fees for Applications

<i>(SC,ST, PwD)</i>	<i>(UR, OBC,EWS)</i>
<i>340 INR</i>	<i>700 INR</i>

IMPORTANT

Please consult the [University admissions website](#) regularly for details and updates.

For any queries, write to the Programme Coordinator, Ph.D. Mathematics at pranay@aud.ac.in

Contact us: +91-11-23863740, 23863743