

S K Somaiya College
Admission Manual

Ph.D. Programme
Polymer Science

July 2021

Visit for Further Details: <https://www.somaiya.edu/en/phd/>

About Somaiya Vidyavihar University

On 26th August 2019, Somaiya Vidyavihar University has become a reality

A new milestone in a glorious ongoing journey established in 2019, Somaiya Vidyavihar University, Mumbai recognised by the University Grants Commission (UGC). Somaiya Vidyavihar, with over six decades of rich experience in building and managing educational institutes of great repute, is the sponsoring body. With over six decades of rich experience Somaiya Vidyavihar has become a self-finance Private University. Somaiya Vidyavihar University is the first private university in Mumbai vide the Maharashtra Self- Financed Universities (Establishment and Regulation) Act 2013. With this status, we now have the academic, administrative, and financial freedom, to achieve the dreams as imagined by our founders. We have a dream to build and support a world class institution, one that is proudly Indian, and excels in education, research and service. Somaiya Vidyavihar University will be a place where knowledge is preserved, disseminated, and new knowledge is created. It will be global in the reach of its ideas and universal in its service. Operational from 26th August 2019, Somaiya Vidyavihar University is a place where you can explore new possibilities, pursue your passion and above all, find yourself.

Our History

An all-round education must integrate Indian culture, values & morality into the curriculum.

In just five decades it has grown into a large educational complex with 34 institutions catering to diverse fields of education such as Humanities, Engineering, Education, Medicine, Management, Pure Sciences and Mass Communication, with more than 39000+ Candidates and 3000+ Faculties and staff on a throbbing 65 acre campus.

The Somaiya Vidyavihar Complex was founded in 1959 by late Shri K.J. Somaiya (1902-1999). Endowed with a sharp business acumen, a balanced perspective and a social bent of mind, Karamshibhai set up the Somaiya Trust in 1953 for furthering his dream of shaping young minds through quality education. For this purpose, he bought a large area of land at Ghatkopar, then considered to be distant, meagrely populated.

Our Vision

Our Founder, Padmabhushan Shri K. J. Somaiya founded Somaiya Vidyavihar on the 9th of September 1959. He later founded the Girivanvasi Pragati Mandal, The K J Somaiya Medical Trust, Girivanvasi Education Trust and sister institutions to make great citizens of India and the World. In the words of Swami Vivekananda, "We want that education by which character is formed, strength of mind is increased, and the intellect expanded, and by which one can stand on one's own feet." We have now grown into a multi-disciplinary and multi-campus education institution with over 1500 faculty, and 38, 000 candidates.

The Somaiya Vidyavihar University admitted 3000+ candidates in 100+ UG/PG/PhD/PG Diploma/Diploma/Certificate programmes in the very first year of establishment.

About Research Center

Polymer Science is a broad discipline which mainly focuses on developing new sustainable polymers including developing new materials from renewable sources by new polymer chemistry, new methods to recycle plastics, and energy-efficient way to process polymeric materials with a lower carbon footprint. A revolution has taken place over the last 50 years in the field of synthetic polymers, whose applications have rapidly permeated most aspects of our daily lives.

The research centre in Polymer Science has been established in the Department of Polymer Science, S K Somaiya College, Somaiya Vidyavihar University. The main goal of the Ph.D. centre of Polymer Science is to promote world-class education, training, and innovative research at the convergence of several disciplines, covering both basic and applied research problems, applications of polymer. The Ph.D Research programme has started from the academic year 2020-21.

Faculty members also work with scientists from National Institutes in India and around the world. Their research component strengthens and enriches the teaching program even more. The Faculty members have good publication records in journals with significant impact factors.

At present, we have Ph.D. guides with expertise in polymer recycling, polymer coating, biomaterials, organic electronics and energy, high performance polymer, polymer nanocomposites, and synthetic methodology for polymer. The Department of Polymer Science has a fully equipped specialized laboratory for research students. Furthermore, the Department of Polymer Science has its own library with open access to research papers for download. MoUs are under discussion with several other national and international academic institutions as well as polymer industries. The Department of Polymer Science also encourages students to promote their work at various competitive events such as AVISHKAR, National, and International conferences for oral and poster presentations.

KEY FEATURES

- State-of-the-art laboratories
- Department with Ph.D.-qualified faculty
- Aim for Research-driven opportunities in Institutions in India and abroad.
- Wide range of program and open electives
- Opportunity for students to carry out interdisciplinary research projects across current relevant topic in polymer etc.
- Workshops and Guest Lectures on a regular basis

Ph.D. Admission Eligibility for Somaiya Vidyavihar University (SVU): Minimum Qualifications for Admission

Subject to the conditions stipulated in the Regulations, the following candidate are eligible to seek admission to the Ph.D. Programme

| | |
|------|---|
| i. | Master's degree or a professional degree declared equivalent to the Master's degree by the corresponding statutory regulatory body, with at least 55% marks in aggregate or its equivalent as per UGC regulations. |
| ii. | A person whose Master's dissertation has been evaluated and the viva-voce is pending may be admitted to the Ph.D. Programme but subject to completion of Master's degree before provisional admission to SVU Ph.D. Programmes. |
| iii. | Candidates possessing a Degree considered equivalent to Master's Degree of an Indian Institution, from a Foreign Educational Institution accredited by an Assessment and Accreditation Agency which is approved, recognized or authorized 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, shall be eligible for admission to Ph.D. Programme. |
| iv. | Candidate not having Master's degree but having research / work / professional experience or possessing post graduate diploma may appear for Ph.D. Entrance Examination of SVU subject to such candidates need to apply separately to SVU for obtaining equivalence for Master's degree. The SVU will have final rights reserved to give such equivalence as per the regulations. Such candidates must possess undergraduate degree with at least 55% marks in aggregate or its equivalent as per UGC regulations. The relaxation will be as per UGC norms from time to time. |
| v. | MUST have qualified score of Ph.D. Entrance Examination of SVU – mandatory eligibility criteria for all candidates. |
| vi. | Candidates exempted from appearing for Ph.D. Entrance Examination of SVU MUST fill the application form as per the schedule displayed on website. The exempted candidates need not pay the application processing fee. |
| vii. | A No Objection Certificate (NOC) in prescribed format from the employer in case of those who are applying to Ph.D. Programme as a sponsored candidate. |

| Eligibility at UG/PG Degree | |
|------------------------------------|--|
| Branch of study at UG | B.Sc./ B.Tech in Chemistry / Polymer Chemistry/ Polymer Science/ Polymer Technology / Polymer Engineering/ Paint Technology / Surface Coating. |
| Branch of study at PG | M.Sc./M.Tech in any branch of Chemistry / Polymer Chemistry/ Polymer Science/ Polymer Technology / Polymer Engineering/ Paint Technology/ Surface Coating. |

| Exemption Criteria for SVU Ph.D. Entrance Examination |
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| <p>Candidates who qualified in UGC - CSIR -NET-JRF/ ICMR-JRF / DBT-JRF (BET)/ INSPIRE/ Prime Minister's Fellowships and those qualified in any of the UGC recognized national or state level eligibility tests with a valid fellowship in the Chemical Sciences and related field.</p> <p>However, the candidates who fulfill the above criteria MUST fill the application form as per the schedule displayed on the website.</p> |

| Pattern and syllabus of SVU Ph.D. Entrance Examination Subject of Entrance Examination: Polymer Science |
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| The SVU Ph.D. Entrance examination will be proctored/supervised close book examination |
| <p>Paper-1 General Aptitude Test – MCQs Online test of 30 marks with 30 questions - duration of the test 30 min.- no negative marking and options</p> <p>a) Logical Reasoning b) Numerical Ability c) Reasoning and Language Aptitude</p> |
| <p>Paper - 2: Subject Specific Test – Online of 70 marks - duration 1 and half hours</p> <p>a) Multiple Choice Questions – Maximum marks – 10 - MCQs online or offline test of 10 marks with 10 questions - no negative marking and option</p> <p>b) Theoretical / Descriptive Questions – Maximum marks 60 – online or offline descriptive type six questions each of 15 marks - any four to be solved</p> |

Syllabus for Entrance Examination

Introduction and Nomenclature:

Functionality of monomers and its role in deciding polymers structure (linear, branched and cross-linked); IUPAC names, trade or commercial names, source based and structure based names of various polymers, classification of polymers, different copolymers, random, alternating, azeotropic copolymerization, block and graft copolymers, geometry and stereoregularity of polymers.

Methods of Polymerization:

Bulk, solution, suspension, emulsion, solid phase, gas phase, ring opening, melt condensation, solution condensation and plasma polymerization, addition polymerization, metathesis polymerization, interfacial condensation, electrochemical polymerization, group-transfer polymerization.

Polymer Characterization:

Analysis of polymers- Chemical (elemental), Flame test, Color and solubility test., Number and weight average molecular weights and their determinations, Thermal behavior and analysis (DTA, DSC, TGA, TMA) of polymers, applications of these techniques, Viscoelastic behavior of polymers, factors affecting viscoelastic behavior, applications and measurement of viscoelastic properties (by DMA), Spectroscopic methods (UV-Vis, IR, NMR).

Processing of polymers:

Processing of plastics, elastomers, fibers, paints and varnishes, compounding, extrusion techniques and processes based on extrusion, injection moulding and processes based on injection moulding, compression moulding and transfer moulding.

Additives for polymers:

Initiator, Inhibitor, Retarder, Plasticizer, Heat stabilizers, Lubricants, UV-stabilizers, Pigments and Extenders, Flame retardants and blowing agents.

Synthesis and properties of thermoplastics:

Commodity and general-purpose thermoplastics: PE, PP, PS, PVC, Polyesters, PU polymers. Engineering Plastics: Nylon, PC, ABS, and Fluoro polymers

Synthesis and properties of thermosetting polymers:

PF, MF, UF, Epoxy, Unsaturated polyester.

Documents Required

1. UG Degree or equivalent Mark List
2. UG Degree certificate
3. PG Degree or equivalent Mark List
4. PG Degree or equivalent certificate
5. AADHAR card
6. Degree equivalence / eligibility certificate – wherever is applicable
7. Migration certificate
8. Two colour passport size Photograph
9. If appearing the PG degree examination – bonafide certificate
10. If employed, then No Objection from the employer – at the time of provisional admission

| Sr. No. | Steps adapted for Ph.D. Programme |
|---------|--|
| 1. | Advertisement in the newspaper |
| 2. | Acceptance of the applications for Ph.D. entrance examination along with applications processing fee |
| 3. | Execution of Ph.D. entrance examination for all PhD programmes |
| 4. | Results of Ph.D. entrance examination |
| 5. | Selection process - Display of list of eligible shortlisted candidates for interview |
| 6. | Selection process – Interviews of shortlisted candidates |
| 7. | Display of shortlisted candidates for provisional admission |
| 8. | Provisional admission and payment of fees in accounts/admin office of the colleges. |
| 9. | Orientation and beginning of the yearlong two semester course work |
| 10. | Allotment of the guide at individual college level / department (within the first six months of provisional admission) |
| 11. | In the first year, first semester is course work, which includes teaching learning, continuous evaluation and ESE examination (Comprehensive examination). The second semester will have dedicated research activities, lab rotation and research proposal drafting & presentation and its evaluation. |
| 12. | Research proposal presentation (Qualifying examination) |
| 13. | KT examination for the semester I and II for unsuccessful candidates or for grade improvement |
| 14. | Issue of mark sheets for course work of semester I and II |
| 15. | Topic approval of the thesis work (after Qualifying course work examination) |
| 16. | Registration for Ph. D programme |
| 17. | Appointment of Examiners and chairman from Research Committee |
| 18. | Annual Progress Seminars (APS) every June/July and Intermediate Progress Seminar (IPS) every January/February of the academic year |
| 19. | Approval of examiners to present pre-synopsis in one of the APS and IPS |
| 20. | Presentation of pre-synopsis and its approval by the examiners |
| 21. | Submission of thesis |
| 22. | Sending the thesis to reviewers |
| 23. | Receipt of reviews about thesis from the reviewers |
| 24. | Final defence of the thesis |
| 25. | Submission of final corrected thesis after defence |
| 26. | Issue of provisional degree certificate |
| 27. | Issue of degree certificate |

The steps and the progress evaluation of Ph.D. students by the committee/examiners/experts will be as per the provisions of Ph.D. regulations

Fee Structure and payment for regular/confirm admission – as per schedule specified in notification from time to time

| Particulars | @Total Fees per annum (₹) |
|--|---|
| Tuition Fee | 103600 |
| Development Fee | 15000 |
| Examination Fee | 4400 |
| Laboratory Fees | 25000 |
| Library Fee | 2000 |
| Total (₹) | 1,50,000/- |
| @ If paid provisional admission fee then should be debited from total fee | |
| Link for fees payment (Fees will be accepted via online payment gateway only and in no case, it can be paid using any other type of mode of payment and to any office/person) | https://myaccount.somaiya.edu/#/login |

Payment of fees schedule for Provisional admission and subsequent years of Ph.D. programme

| Program Academic Year | Particulars | Amount in Rupees (₹) | Payment Schedule |
|---|---|---|--|
| First Year | Provisional admission fee/ First Instalment | 75,000/- | Within eight days from the date of receiving the offer letter |
| | Second Instalment | 75,000/- | Within six weeks from the commencement of the Academic Year |
| Second Year and Onwards | First Instalment | 75,000/- | Within first week from the commencement of the new Academic Year |
| | Second Instalment | 75,000/- | Within six weeks from the commencement of the new Academic Year |
| Link for fees payment (Fees will be accepted via online payment only and in no case it can be paid using any other mode of payment and to any office/person) | | https://myaccount.somaiya.edu/#/login | |
| Note: Students have to pay the full fees of the program per year till the submission of the thesis | | | |

Guidelines to do fee payment in Online Mode

There is a provision of ONLINE PAYMENT of college fees for student's convenience 24x7 on or before scheduled due date. Student will get notification from institute in three ways.

- 1) SMS
- 2) Email
- 3) Notification on myaccount.somaiya.edu portal

In notification there will be a link to make the payment. You just need to click on the link and follow below simple steps to make the payment.

STEP 1: Link will take you to myaccount.somaiya.edu portal. Use Somaiya SVV Net ID and password to login. Want to know more about myaccount.somaiya.edu click on https://somaiya.edu/media/pdf/SVVNetID_and_Email%20id.pdf

STEP 2: Login, select instalments and click on "Pay Now".

STEP 3: System will redirect to Online Payment Gateway. Fill the required information and follow payment options to complete the payment cycle.

STEP 4: After the successful payment, the payment receipt will be available at student's MyAccount portal

Admission Cancellation policy of Ph.D. programme

If the candidate has accepted the allotted seat by paying the fees and later chooses/decides to withdraw from the programme of study, then cancellation option is available at his/her MyAccount login.

The college shall follow the below system for deduction of fees against the cancellation request for the candidate.

| Sr. No. | Point of time when application for admission cancellation is received by college | Applicable Deduction |
|---------|---|----------------------|
| 1 | 15 days or more before the date of commencement of academic term | Rs 5,000/- |
| 2 | Less than 15 days before the date of commencement of academic term | 10% of total fees |
| 3 | Less than 15 days from the date of commencement of academic term | 20% of total fees |
| 4 | On or beyond 15th day but within six weeks from the date of commencement of academic term | 50% of total fees |
| 5 | More than six weeks from the date of commencement of academic term | 100% of total fees |

Note:

- Total Fees for the program per year is Rs. 1,50,000/-
- Tentative date of commencement of every academic term will be announced on website.

Typical Sample example for further illustration to know about cancellation charges with reference to the date of commencement of term

Refer the **below example** for clarification of Ph.D. admission cancellation policy

Assume that the academic term commences from **15th July** of a particular academic year. Based on this assumption, following table illustrates important dates of cancellation policy:

Illustration:

| Sr. No. | Point of time when application for admission cancellation is received by college | Applicable Deduction |
|---------|--|----------------------|
| 1 | Cancellation on or before 30th June (up to 11.59pm) | Rs 5,000/- |
| 2 | Any time from 1st July to 14th July (up to 11.59pm) | 10% of total fees |
| 3 | Any time from 15th July to 28th July (up to 11.59pm) | 20% of total fees |
| 4 | Any time from 29th July to 25th August (up to 11.59pm) | 50% of total fees |
| 5 | After 25th August | 100% of total fees |

Process of getting documents submitted return

After verifications of documents, within 7 days, documents will be returned to students.

Contact

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