

Information Brochure

for

Enrollment to

Ph D Programme in

The Faculty of Engineering and Technology

2013-14 (2nd cycle)



**BENGAL ENGINEERING AND SCIENCE UNIVERSITY, SHIBPUR
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Ph D programme starts with enrollment and the enrollment is announced twice (1st and 2nd cycle) in a year. Table -1 furnishes the schedule for enrolment in the second cycle for the session 2013-14.

Table 1

Sl,	Event	Date
1	Start date for application	27 January 2014 (Monday)
2	Last date of application and remittance of the fee in the bank	6 February 2014 (Thursday)
3	Publication of the list of eligible candidates for test/interview	11 February 2014 (Tuesday)
5	Interview/Test* (To be conducted separately in different	17-19 February 2014 (Monday to Wednesday)
6	Date of publication of list of candidates selected for	24 February 2013 (Tuesday)
7	Dates for enrollment*	27 and 28 February 2014 (Tuesday and Friday)
8	Ph D Program Starts	3 March 2014 (Monday)

The dates may change. Please refer to our website for the final dates.

A brief profile of the University:

The Bengal Engineering and Science University, Shibpur, established as Calcutta Civil Engineering College, way back in 1856, with the idea of introducing engineering education in the country, has long and glorious past. In the year 1920, the college was renamed as Bengal Engineering College, Shibpur. Till 1992, it was a constituent college of the Calcutta University and has been offering PG Courses in Engineering since 1954. In recognition of its service to the nation for all these years, the college was elevated to the status of a Deemed University in 1992 and the then Honorable President of India, Dr. Sankar Dayal Sharma formally inaugurated the University on March 13, 1993. From 1st October 2004, the Institute was further elevated to the status of a State University and was renamed as Bengal Engineering and Science University, Shibpur.

The vision of the University is to be one of the best ten excellent engineering and science universities of the country, committed to transforming India to a developed nation and partnering in the realization of the Developed India Vision 2020, through development of world-class engineers and scientists. The university functions as a research-intensive university whose prime areas of activity are creation of knowledge and dissemination of knowledge in an environment of research which ensures that teaching and learning are conditioned by the latest research, and the nation is endowed with skilled manpower of the highest quality.

The University covers a pleasant green area of nearly 49 hectares and has the following in campus facilities.

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|---|---|
| <input type="checkbox"/> A well equipped Gymnasium | <input type="checkbox"/> A small hospital |
| <input type="checkbox"/> Well maintained Sports Fields | <input type="checkbox"/> A well equipped Institute Hall for cultural activities |
| <input type="checkbox"/> A Students' Canteen | <input type="checkbox"/> A bank with ATM Counter |
| <input type="checkbox"/> Hostel for P.G. students | <input type="checkbox"/> University Guest House etc. |
| <input type="checkbox"/> Campus-wide Networking | <input type="checkbox"/> Swimming Pool |
| <input type="checkbox"/> Students' Innovation/Creativity Centre | |

It is located in a sylvan surrounding on the bank of the holy and mighty river Hooghly, adjacent to the famous Indian Botanic Garden and is 20 minutes drive from the heart of the city of Kolkata.

PhD Programme:

The University offers Ph D programmes under the Engineering and Technology Faculty from 10 departments, 7 schools and 2 centres. The Ph D programme starts with enrollment and followed by a registration which is to be done within a year after the enrollment. A registered candidate thereafter is to complete the work within 5 years from the date of registration. Extension to the registration is granted for 1 year and a maximum of two such extensions may be permitted. The research areas offered by different Departments, Schools and Centers are furnished in Table - II

Eligibility:

(a) To be eligible for enrollment in a Department/School/centre belonging to the Faculty of Engineering and Technology a candidate should have a Master's Degree in Engineering/Architecture/Town and Regional Planning/any branch of Science or any related branch of Science or Engineering or an equivalent Degree recognized by the U.G.C/A.I.C.T.E./M.Phil in a branch of Science or any related field.

(b) In exceptional cases, the concerned faculty council may allow enrollment to candidates with B.E/B.Tech Degree or equivalent. Such candidates will require undertaking additional course work in subjects covering not less than two semesters. However, the additional course work may be completed, if possible, in a single semester.

Application:

Applications are accepted on-line only. Prospective candidates are advised to see the announcements in the website (www.becs.ac.in) for detailed information.

Accommodation:

A limited number of seats are available in different halls which are to be shared with PG students. A separate research scholars' hall is coming up soon.

Fees structure*:

Application for enrollment fee (non-refundable) is Rs. 300/-. Enrollment fee is Rs. 1000/- Registration fee is Rs. 3000/- initially and Rs. 3000/- each year thereafter. Finally, submission (and resubmission; if any) of thesis fee is Rs. 5000/-. The examination fee is Rs. 500/- in a semester whenever a candidate is appearing in a theoretical examination that is linked with completion of courses as decided by the doctoral committee for that student. For Hostel/Hall accommodation the charges are separate. At present the expenditure per month is to the tune of Rs. 2500/- per month.

*The fees structure is presently under revision.

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Assistance

About 20 institutional scholarships are available in each cycle. The financial package is similar to UGC JRF scheme; however HRA is not available. Other than the University fellowships, one may enjoy scholarships from different Government (UGC, DST etc.) and Private bodies (under sponsored projects from the Industries) as per the financial packages offered by those organizations. Moreover, Ph D scholarships may be available under QIP and TEQIP schemes.

(Visit our website, www.becs.ac.in)

Note: All the departments/Schools/Centres may not offer admission to PhD programme in all the cycles; please see the website for current information including the broad area of research and the number of positions being offered]

Facilities:

The Ph D scholars are attached to a particular department, or school or a centre. All the facilities like Laboratory, library (both central and departmental) are available to them. Central facilities like Computer Centre, workshop etc. are also available for their service. Please see the department/school/centre portion of the website under the heading academics for specific information on laboratory and faculty members.

Duties and responsibilities:

At present there is no residential requirement for the Ph D students. However, tutorial and Laboratory duties have to be performed as per the schedule prepared by the corresponding department/schools/centre. Moreover, as per the UGC stipulations the candidates are supposed to complete some course-work as decided by the Doctoral Committee.

(For rules/regulations in details candidates may go through the Ph D regulations)

Table - II

Department	Area of Specialization	No. of Vacancy
Electronics and Telecommunication Engineering	Microwave Devices Circuits & Systems	2
	Wireless Network	1
	Nanostructured Oxide Based Gas Sensor	1
	Smart Antenna for Wireless Communication, Performance Enhancement of Planar Antenna, Electromagnetic Metamaterials, Retrodirective Antenna Array and System.	2
Aerospace Engineering and Applied Mechanics	Solid mechanics	1
	Computational Fluid Dynamics	1
	Hydraulics and Fluid Dynamics	1
	Finite Element Analysis of Plate and Shells Structures	1
	Computational Fluid Dynamics	2
Computer Science and Technology	Digital Microfluidic Bio-Chip, Quantum Computing, Video Image Processing	1
	Adhoc Network	1
	Data Mining	1
	Computer Architecture, Cellular Automata	1
	Digital Image Processing	1
	Big Data and Social Media Analysis	1
Mechanical Engineering	Heat Treatment Enhancement	2
	Bio-tribology	1
	Non Conventional Machining	1
	Non Conventional & Renewable Energy	2
Architecture, Town and Regional Planning	Urban Planning Models, Regional Planning Models, Urban planning, Regional Planning, Sustainable Planning, Housing, Historical Aspects of Architecture, Theoretical Aspects of Architecture	1
	Spatial and Environmental Planning, Climate Responsive Architecture, Housing and Community Planning, Architectural and Urban conservation	2
	Remote Sensing and GIS application in Planning, Environmental Planning, Urban sprawl / Urban Growth Studies	3
	Earthquake Resilience and Disaster Mitigation Planning, Urban Studies, Historical Precedents of Architecture, Theoretical Constructs, Cultural heritage studies , Behavioural aspects of Architecture, Conservation and Regeneration	2
	Transportation Planning, Green Building Techniques	2

Department	Area of Specialization	No. of Vacancy
School of VLSI Technology	CAD for Microfluidic Biochips	2
	3D IC Testing	1
Information Technology	Classification of Boolean Functions	1
	Image Analysis in Digital Domain	1
	Cellular Automata	1
Civil Engineering	Geotechnical Engineering	6
	Structural Engineering	4
	Environmental Engineering	5
	Transportation Engineering	3
	Water Resources Engineering	1
Electrical Engineering	Power System	1
	Power Electronics and Machine Drives	1
	Power System (Swing Phenomena in Large interconnected System)	1
	Nonlinear Control and Robust Control System	1
	Energy (Solar Photovoltaic)	1
Centre of Excellence for Green Energy & Sensor Systems	Thin Film Solar Cells	1
	Thin Film Semi Conductors: Electrochemical/Chemical Deposition and Application	1
	Hybrid Solar Cells/ Surface passivation of C-Si Solar Cells	1
	Luminescence Converter	1
Mining Engineering	Environment	1
	Opencase Mining	1
	Environment	2
	CBM	1
Ecology, Infrastructure and Human Settlement Management	Environmental Planning	1
Metallurgy and Materials Engineering	Nanostructured Magnetic Materials	1
	Microstructure-Texture-Property Relationships of Multiphase Steel	1
	Deformation and Texture of Al-alloy	1
	Surface Science and Engineering	1
	Deformation Behavior of Al-base Nano Composite	1
	Image Processing of Steel Microstructures	1
	Friction Stir Welding of Dissimilar Metals / Alloys	1