

2023-24 (Even Session)

Indian Institute of Information Technology Sonepat



Ph.D. Programme for Full Time &
Working Professionals Notification

Advertisement Date – 3rd November 2023

Ph.D. ADMISSION NOTIFICATION 2023-24
(Even Session)

Indian Institute of Information Technology, Sonapat (IIIT Sonapat) is an institute of national Importance under Ministry of Education, Government of India,

Currently Institute is offering under graduate programs in Computer Science & Engineering and Information Technology. Shortly, the Institute will be shifting to its state-of-the-art Permanent Campus proposed to be developed on sprawling 50 acres (approx.) of land at village kilorad in Sonapat.

The Institute invites applications from eligible Indian Nationals for admission to the Doctor of Philosophy (Ph.D.) programme for the year 2023-24 (Even session). The Ph.D. Programme shall be offered in both Full time as well as in working professional mode in (Computer Science & Engineering (CSE) & Information Technology (IT)), and Allied Subjects – Electronics and Communication Engineering, English & Mathematics covering following Major areas of Research:

Department	ResearchAreas
Computer Science and Engineering , Information Technology	All areas in Computer Science & Engineering like Computational Intelligence, Software Engineering, Internet of Things, Information Security ,Cloud Computing, High Performance Computing, parallel and distributed computing, Machine Learning, Data Analytics, WBANs and security, Intrusion Detection, Data Analytics, Cyber Security, Cloud Computing, ITS and related areas.
Electronics and Communication Engineering (ECE)	Signal (Image & Video)& Speech processing, Computer Vision, Biomedical Computer vision, artificial intelligence, Machine Learning
Mathematics	Wavelet Analysis, Integral transformation, Pseudo Differential Operator, Operator Theory, Functional Analysis, Numerical Methods.
English	All areas in English like - Semiotics & Discourse Analysis, CDA, ELT, Applied Linguistics, Language and Law, Health Communication

A. Ph.D. Scheme:

In this call, the Institute offers the Ph.D. Programme for both Full Time & working professional mode in (Computer Science & Engineering (CSE) & Information Technology (IT)), and Allied Subjects – Electronics and Communication Engineering (ECE) , English & Mathematics under various institute level categories as follows:

1. Ph.D. Admission –Categories

1. Industry Candidates:

a) Extern Candidate from Industry, (External Industry) (EX-I)

This category shall include a candidate who is self-financed and permitted and employed by a recognized private/ government/semi-government, R&D Organization, PSU, Private/ Government/ semi government Industry or companies or any Private/ government/ semi government non-academic institution for doing research basis in work integrated manner at the respective place of work. Such candidate is not eligible to receive any financial stipend/support from IIITS.

b) Extern Sponsored Candidate from Industry, (External Industry Sponsored) (EX-IS)

This category shall include a candidate who is sponsored and permitted and employed by a recognized private/ government/semi-government, R&D Organization, PSU, Private/ Government/ semi government Industry or companies or any Private/ government/ semi government nonacademic institution for doing research at IIITS. Such candidate is not eligible to receive any financial stipend /support from IIITS, instead will be receiving the same from the sponsoring organization.

2. Academic Institution(s) Candidates

a) Self-financed candidates from Academic Institutions, (Self-financed Academics) (SF-A)

This category shall include a candidate who is self-financed and permitted and employed by a recognized private (autonomous or university affiliated)/ government (state or central)/semi-government academic institution for doing research in work integrated manner

at the respective place of work. Such candidate is not eligible to receive any financial stipend /support from IIITS.

b) Sponsored Candidate from Academic Institutions, (Sponsored Academics) (S-A)

This category shall include a candidate who is sponsored and permitted and employed by

a private (autonomous or university affiliated)/ government (state or central)/semi government academic institution or sponsored under QIP schemes/ other academics sponsorship for doing research at IIITS. Such candidate is not eligible to receive any financial stipend /support from IIITS instead will be receiving the same from the sponsoring organization.

3. Other Candidates

a) Intern Self Sponsored Candidates, (self-financed others) (SF-O)

This category shall include a candidate who is self-financed and unemployed will be doing research at IIITS. The candidate is eligible for admission with M. Tech/M.S./ME/ M.Sc/MA/ Master's degree in relevant discipline OR Eligibility as mentioned in Table of Eligibility below , qualification with respective thesis submission period and required course work credits. Such candidate is not eligible to receive any financial stipend/ support from IIITS.

b) Externally funded or sponsored or Project Staff Candidates, (Project Sponsored) (P-S)

This category shall include a candidate who has received fellowship or scholarship or funding from Private trusts/Private industry/ Government or semi government agency or department and is unemployed OR A candidate working as SRF or JRF at IIITS under a funded research project will be doing research at IIITS. The candidate is eligible for admission with M. Tech/M.S./ME/ M. Sc/MA/ Master's degree in relevant discipline or eligibility as mentioned in Table of Eligibility below qualification with respective thesis submission period and required course work credits. Such candidate is not eligible to receive any financial stipend /support from IIITS. Instead in case of SRF/JRF like IIITS project staff the stipend will be under the respective research grant and for other candidates the stipend will be through the scholarships or fellowships they will be receiving.

B. Eligibility Criteria:

The relevant details of the eligibility criteria are as under:

Sr. No.	Category	Minimum Duration for Thesis Submission	Eligibility
1	Candidate from Industry (Ex-I) (EX-IS)	Two years , from the date of joining the programme till the date of Submission of Thesis	<p>For Computer Science & Engineering and Information Technology, Electronics and Communication Engineering(ECE)-</p> <p>Essential: Master's Degree-like M.Tech/M.E/MCA+M.Tech in relevant disciplines with First Class or 60% marks (55% marks for SC / ST / PwD) / CPI or CGPA greater that 6.75 (6 for SC/ST/PwD) on a 10 point scale.</p> <p style="text-align: center;">AND</p> <p>Minimum 2 years of relevant Industry experience.</p> <p>Desirable: A valid GATE Score/Equivalent Exam</p> <p style="text-align: center;">OR</p> <p>Essential: Bachelor's Degree in Engineering / Technology with First Class or 60% marks (55% marks for SC / ST / PwD) / CPI or CGPA greater that 6.75 (6 for SC/ST/PwD) on a 10 point scale.</p> <p style="text-align: center;">AND</p> <p>Minimum 4 years of relevant Industry experience.</p> <p>Desirable: A valid GATE Score/Equivalent Exam</p> <p>For All other Science /Mathematics and Humanities-</p> <p>Essential: Master's Degree -M. Sc/relevant master's degree in science/allied/ related subjects. MA in English/Linguistics or relevant disciplines or equivalent master degree in humanities/allied/ related subjects with</p>

			<p>minimum 60% marks (55% marks for SC/ST/PwD) / CPI or CGPA greater than 6.75 (6 for SC/ST/PwD) on a 10-point scale or its equivalent grade.</p> <p style="text-align: center;">AND</p> <p>Minimum 4 years of relevant Industry experience for -M. Sc/relevant master's degree in science/allied/ related subjects. MA in relevant disciplines or equivalent master degree in humanities/allied/ related subjects</p> <p>Desirable: A valid GATE /UGC/CSIR/INSPIRE/NET Score/Equivalent Exam</p>
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Sr. No.	Category	Minimum Duration for Thesis Submission	Eligibility
2	Academic Institution (s) Candidate (SF-A) / (S-A)	Two years , from the date of joining the programme till the date of Submission of Thesis	<p>For Computer Science & Engineering and Information Technology, Electronics and Communication Engineering(ECE)</p> <p>Essential: Master's Degree-M. Tech/M. E in Computer Science/CSE/Information Technology/ Electronics and Communication Engineering(ECE)/relevant disciplines or MCA+ M.Tech with minimum 60% marks (55% marks for SC/ST/PwD) / CPI or CGPA greater than 6.75 (6 for SC/ST/PwD) on a 10 point scale or its equivalent grade.</p> <p style="text-align: center;">AND</p> <p>Minimum 2 years of relevant academic experience.</p> <p>Desirable: A valid GATE /UGC/CSIR/INSPIRE/NET Score/Equivalent Exam.</p> <p>For All other Science/Mathematics and Humanities-</p>

			<p>Essential: Master's Degree -M. Sc/relevant master's degree in science/allied/ related subjects. MA in English/Linguistics or equivalent master degree in humanities/allied/ related subjects with minimum 60% marks (55% marks for SC/ST/PwD) / CPI or CGPA greater that 6.75 (6 for SC/ST/PwD) on a 10-point scale or its equivalent grade.</p> <p style="text-align: center;">AND</p> <p>Minimum 2 years of relevant Industry experience for -M. Sc/relevant master's degree in science/allied/ related subjects. MA in relevant disciplines or equivalent master degree in humanities/allied/ related subjects</p> <p>Desirable: A valid GATE /UGC/CSIR/INSPIRE/NET Score/Equivalent Exam</p>
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Sr. No.	Category	Minimum Duration for Thesis Submission	Eligibility
3	Other Candidates (SF-O)/ (P-S)	Two years , from the date of joining the programme till the date of Submission of Thesis	<p>For Computer Science & Engineering and Information Technology, Electronics and Communication Engineering (ECE)</p> <p>Essential: Master's Degree-M.Tech/M.E in Computer Science/CSE/Information Technology/ Electronics and Communication Engineering(ECE)/relevant discipline or MCA+ M.Tech with minimum 60% marks (55% marks for SC/ST/PwD) / CPI or CGPA greater that 6.75 (6 for SC/ST/PwD) on a 10 point scale or its equivalent grade.</p>

			<p>Desirable: A valid GATE /UGC/CSIR/INSPIRE/NET Score/Equivalent Exam.</p> <p>For All other Science/Mathematics and Humanities-</p> <p>Essential: Master's Degree -M. Sc/relevant master's degree in science/allied/ related subjects. MA in English/Linguistics or equivalent master degree in humanities/allied/ related subjects with minimum 60% marks (55% marks for SC/ST/PwD) / CPI or CGPA greater that 6.75 (6 for SC/ST/PwD) on a 10-point scale or its equivalent grade.</p> <p>Desirable: A valid GATE /UGC/CSIR/INSPIRE/NET Score/Equivalent Exam</p>
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4. Selection process (all categories)

Admission will be on the basis of written test and/or/both/ interview. The department may decide to scrutinize the candidates by following different mechanism such as area of guide/candidate/ Statement of Purpose (SoP) presentation/departmental research strength etc. **For written test, latest GATE syllabus will be followed for CSE/IT/ECE/ Mathematics and for English the syllabus is attached in Annexure – 3.**

5. Fees Structure:

The payment of Annual Fees may be done on semester basis. The Semester wise Fees Structure for all the category of candidates is as under:

Sr. No.	Particulars	Amount (in Rs.)		
		First Semester	Second Semester	Total Annual fees
1.	Tuition Fee (per sem)	35000	35000	70000
2.	Student Activity Fee (per sem)	3177	3177	6354
3.	Inst. Dev. Fee (per sem)	3177	3177	6354

4.	Skill Dev. & Edu. Tour (per sem)	636	636	1272
5.	Examination Fee (per sem)	1271	1271	2542
6.	Medical Insurance (per year)	636	0	636
7.	Alumni Fee (one time)	1271	0	1271
8.	Student Welfare Fund (one time)	128	0	128
9.	Admission/registration Fee (one time)	1271	0	1271
10.	Watch & Ward/Tpt. Exp. (one time)	5082	0	5082
11.	Institute Security (Refundable one time)	6353	0	6353
12.	Library Security (Refundable one time)	1271	0	1271
	Total	59273/-	43261/-	102534/-

6. Application Procedure:

- a. The applications are to be filled in hard copies and only in the prescribed format of the Institute given on the Institute's website - <http://www.iiitsonapat.ac.in>
 - b. The Application Form shall not be supplied on postal request. The candidates are advised to download the same from Institute website.
 - c. The copy of the application form duly signed and enclosed with the Self-Attested photo copies of **certificates/testimonials, etc., should reach by Speed Post/Registered Post on or before 27-11-2023 till 5:00 PM to**
The Director, IIIT SONEPAT,
I-TEC, Technopark, Sonapat Campus, plot #4-B, Rajiv Gandhi Education City, Rai,
Sonapat, Haryana-131029.
 - d. All applications which are not in prescribed format / without relevant supporting enclosures received after the last date / without application fees will be outrightly rejected. No correspondence shall be entertained in this regard. Interim Correspondence will also not be entertained or replied to.
 - e. Institute will not be responsible under any circumstances for any sort of postal delay/loss of the application form.
7. The last date for submission of application is **27-11-2023 till 5:00 PM**

7. Application Fees:

The Application Fees shall be as under:

Sr. No.	Particulars	Application Fees
1	General/OBC/EWS Candidates	Rs. 1000/-
2	SC/ST/PwD Candidates	Rs. 500/-

- a. The Application Fees shall be payable through Demand Draft drawn in favour of **Indian Institute of Information Technology Sonapat** or **“IIIT Sonapat”** payable at **Kurukshetra** or by UPI/NEFT/RTGS in the following Bank Account (Attach Receipt with submitted application):

Account Name	Indian Institute of Information Technology Sonapat
Account Number	36227938668
Name of the Bank	State Bank of India, NIT Kurukshetra
Branch Code	6260
IFSC Code	SBIN0006260
MICR Code	136002005

Note- Candidates are required to write his/her name and contact number on back side of the Demand Draft or NEFT Receipt.

- b. Candidates are required to write his/her name and contact number on the UPI/NEFT/RTGS Receipt, The Application Fees is non-refundable.
- c. The envelope containing the Application Form shall mention on the top in bold **“Application for Ph.D. in the **<CSE> & <IT> OR <ECE> OR <English> OR <Mathematics>**”** with Modes as- **<Working Professional> OR <Full Time>** candidate name, address and phone number written on it.
- d. Employed candidates are required to submit the Letter of consent in format provided in **Annexure –2**.
- e. No TA/DA and/or Lodging/Boarding will be paid for attending the Written Test/Interview.
- f. Any corrigendum/changes/updates shall be made available only on the Institute’s website viz. <http://www.iiitsonapat.ac.in/> The candidates are advised regularly visit the Institute’s website for any updates.

8. Submission of Documents / Certificates:

The self-attested copies of following documents are required to be attached with the hardcopy Application Form, failing which the application shall not be evaluated and shall stands summarily rejected:

- ✓ The hard copy of the Prescribed Application Form duly signed on all the pages.
- ✓ 10th Standard Certificate.
- ✓ 12th Standard Certificate.
- ✓ Graduation Mark-Sheets for all years.
- ✓ Graduation Degree Certificate.

- ✓ Post-graduation Degree & Mark-Sheets for all semesters.
- ✓ Letter of Consent (Annexure 2) /experience/ Service Certificate from the Employer
- ✓ EWS and OBC Certificate (wherever applicable) issued in the current Financial Year only
- ✓ SC/ST/PwD Certificates (wherever applicable) in prescribed Perform as per central Govt. Rules
- ✓ Actual DD or original NEFT receipt
- ✓ Annexure 1,2

9. General Terms & Conditions:

- a. The decision of Director, IIITS shall be final in all the matters related to Admission Process.
- b. The Institute reserves its right to cancel / postpone / hold the Admission Process at any stage without citing any reason thereof.
- c. Mere eligibility doesn't ensure selection. The Institute reserves the right to select limited number of Ph.D. Candidates in each of the Departments at the sole discretion of Director, IIITS.
- d. The candidates are required to have at least one working email and mobile number which will be used during the entire admission process for communication, if required.
- e. In case of any inadvertent mistake in the process of admission detected at any stage even after the registration of the candidate for Ph.D. Programme, the Institute reserves the right to modify/withdraw/cancel any communication made to the candidates.
- f. Canvassing in any form shall lead to disqualification of the Candidate for admission.
- g. Clarification, queries in the context of Admission Process may be sent on the email id - **sonepatiit@gmail.com**
- h. Candidates are advised to keep visiting institute's website for all updates regarding Ph.D. admission process.

Place: Sonapat
Date: 31/10/2023

Sd/-
DIRECTOR
IIIT, Sonapat

Annexure-1

STATEMENT OF PURPOSE (SOP)

Statement of Purpose (SOP) is an opportunity to share with the admission committee your thoughts and feelings about Ph.D. studies at IIT Sonepat including your preparation for the same.

Briefly describe past project/ research work done by you. Restrict yourself to 500--600 words. The personal SOP will aid the admission committee in evaluating your application.

- 1) If you are applying for more than one academic discipline, you may include a separate SoP for each discipline.
- 2) The proposal should contain
 - a) Problem identification / research area,
 - b) A brief review of literature, and
 - c) Methodology.

Applicant Name: _____

Ph.D. Programme in _____

Ph.D. Programme Mode (Full Time /Working Professional) _____

Annexure-2

LETTER OF CONSENT

LETTER OF CONSENT FROM THE EMPLOYER

Dear Sir,

This is to certify that Shri./Smt./Kum._____is an employee of our Company/Organization/College/ University since_____and is currently serving as_____(designation) and he/she can pursue his/her doctoral studies in Full / working professional mode at IIIT Sonapat in relevant stream/field.

Signature & Seal of the Head of the Company / Organization / College / University

Dated-

Annexure-3

Written test Syllabus for Ph. D in English

UNIT-I : Literature and Society in the following periods

Renaissance
Reformation
Restoration
Neo-classical Period
Romantic Period
Victorian Period
Modern Period
Post-Modern Period

UNIT-II : Literary Theory and Criticism

Aristotle : 'Poetics'
Longinus : 'On the Sublime'
J. Dryden : 'An Essay of Dramatic Poesy'
Dr Johnson : 'Preface to Shakespeare'
W. Wordsworth : 'Preface to Lyrical Ballads'
S.T. Coleridge : Biographia Literaria (Chaps XIII, XIV, XVIII)
Matthew Arnold : 'Study of Poetry', 'Shelley', 'Wordsworth', 'Culture and Anarchy'
T.S. Eliot : 'Tradition & the Individual Talent', 'Hamlet', 'The Metaphysical Poets'
I.A. Richards : The Principles of Literary Criticism
F.R. Leavis : 'Johnson and Augustanism', 'Literature and Society', 'Literary Criticism and Philosophy'
Practical Criticism

UNIT-III : Literary Theory and Literary Criticism

Structuralism
Deconstruction
Historicism
New Historicism
Feminism
Post-Colonialism
Cultural Theory
Russian Formalism
New Criticism
Psycho-analytical Criticism
Marxism
Reader-Response Theory
Technological Criticism
Indian Poetics – Rasa
Dhvani Schools

UNIT-IV : Language Learning and Language Teaching

Language: Basic concepts, theories and pedagogy. English in Use. English in India: history, evolution and features; Cultural Studies; Research Methods and Materials in English. Language Teaching and Language Learning: First and second language learning; behaviouristic and cognitive theories of language learning; social and psychological aspects of second language acquisition; methods of language teaching; materials and teaching-aids in language teaching; computer assisted language teaching (CALT); language testing: types of tests; validity, reliability and standardization of tests; Interlanguage. Language Teaching Analysis: Goals of language teaching; factors in the preparation of a language teaching syllabus: linguistic theory, social and psychological factors, needs analysis, class-room presentation; text-book evaluation; types of syllabus: structural, communicative, notional; the role of the teacher and teacher training; role of self-access packages; socio-linguistic and psychological aspects of language teaching and learning. Contrastive Analysis: Error analysis and interlanguage.

UNIT-V: Language in Application and Language in Mind

Language in Translation; Lexicography; Computational Linguistics; Stylistics and Literary Criticism, Discourse Analysis; Language and Media.

Basic Concepts: Basic issues in psycholinguistics, brain language relationship, the different theoretical orientations: empiricist-behaviourist, biological-nativist, and cognitive-interactionist, biological foundations of language; language acquisition and stages; critical period hypothesis.

Language Processing: The processes of perception, comprehension and production; evidence of language production; steps in comprehension; mental representation of language and lexicon; relationship between comprehension and production.

Clinical Psycholinguistics: Normal and pathological language; aphasia; dyslexia; stuttering; language in the hearing-impaired; language in mental retardation.

UNIT-VI: Language and its Sounds, Morphology, Syntax and Semantics

Basic Concepts in Phonetics, phonology; Properties of Human Language; Speech Mechanism and Phonemes: Articulatory Phonetics, Auditory Phonetics, Acoustic Phonetics, Descriptive Phonology Generative Phonology; Consonant Clusters, Syllables and Word Stress; Basic Concepts in morphology; Morphological Analysis; Word-Formation Processes; Morpho-syntax; Indian Traditional and Structural Syntax; Generative Syntax; Key Concepts in the Minimalist Programme; Transformational syntax; Semantics; Pragmatics

UNIT-VII: Language and its History

Language and Sound Change; Morphosyntactic and Semantic Change; Linguistic Reconstruction; Language Contact and Dialect Geography; Major language Families:

UNIT-VIII. Language and Society

Basic Concepts: Sociolinguistics and sociology of language; micro-and macro approaches to language in society; linguistic repertoire: language, dialect, sociolect, idiolect; diglossia, taboo, slang; elaborated and restricted codes; speech community, communicative competence, ethnography of speaking; language of wider communication; lingua franca; language and social inequality; language in diaspora; new linguistic world orders.

Linguistic Variability: Patterns in linguistic variation, linguistic variables and their co-variation with linguistic dimensions, social class / social network / age / gender/ ethnicity; language loyalty, social identity and social attitudes, stereotypes.

Language Contact: Bilingualism, multilingualism; code-mixing and code-switching; outcomes of language contact: language maintenance, borrowing, convergence, substratum effect, pidginization and creolization; language loss.

Language Development: Language planning, corpus and status planning, standardisation and modernisation; language movements – state and societal interventions; script development and modifications; linguistic minorities and their problems.

Language Ecology and Endangerment: Superdiversity; linguistic landscaping, linguistic vitality, language endangerment, parameters of endangerment, documentation of endangered languages, revitalisation.

Sociolinguistic Methodology: Sampling and tools; identification of sociolinguistic variables and their variants; data processing and interpretation; quantitative analysis of data; variable rules; ethnomethodology; participant observation.

UNIT-IX Areal studies and South Asian Language Families

Language Typology, Universals and Linguistic Relatedness: Language typology and language universals; morphological types of languages—agglutinative, analytical (isolating), synthetic fusional (inflecting), infixing and polysynthetic (incorporating) languages. formal and substantive universals, absolute and statistical universals; implicational and non-implicational universals; linguistic relatedness—genetic, typological and areal classification of languages.

Approaches for Study: Inductive vs deductive approaches; universals of language and parametric variation; word order typology; Greenberg's characteristics for verb final and verb medial languages and related features in the context of South Asian Languages.

Salient Features of South Asian Languages: Phonetic, phonological, morphological, and syntactic features of Indo-Aryan, Dravidian, Austro-Asiatic, and Tibeto-Burman language families of South Asia; Linguistic Survey of India as a source of information; contact induced typological change; convergence and syntactic change.

India as a Linguistic Area: The notion of linguistic area; language contact and convergence with special reference to the concept of 'India as a Linguistic Area'; features of retroflexion, vowel harmony, aspiration, reduplication, echo formation, onomatopoeia, explicator compound verbs, anaphora; India as a sociolinguistic area, India as a semantic area; notion of microlinguistic area.