

## NOTES:

- ✓ **This document is a translated version of the “AY 2020 Guide to Entrance Examinations, Department of Electrical Engineering and Information Systems (EEIS), Graduate School of Engineering, The University of Tokyo” in Japanese. The guide in Japanese is regarded as the official version. This English translation is provided for the convenience of applicants.**
- ✓ The Department of Electrical Engineering and Information Systems cannot facilitate a visa for applicants who wish to take the entrance examination.

# AY 2020 Entrance Examination Guide

## Department of Electrical Engineering and Information Systems (EEIS)

### Doctoral Program Type A Entrance Examination Guide

#### 1. Examination Dates and General Information

| Subject   | Schedule  | Venue  | What to bring   | Notes   |
|---|---|--|---|---|
| English (TOEFL-ITP)   | Monday, August 26<br>9:00 - 11:30               | Venue info can be found in the “Foreign Language Examination Guide” enclosed in the examination packet.          | Admission card, sharpened black (or mechanical) pencils, eraser, pencil sharpener, ruler, watch equipped with time-keeping function only. | Applicants who have submitted an official TOEFL-iBT or TOEFL-PBT score cannot take this English test. |
| Regular education subject (mathematics)   | Monday, August 26<br>13:00 - 15:30              | Venue info can be found in the “Regular Education Subject Examination Guide” enclosed in the examination packet. | <b>Note:</b> use of calculators, watch calculators, cell phones and dictionaries are not allowed.   | Please refer to 2 (1-1)   |
| Specialized subject (Electrical & Electronic Engineering and Information Engineering) | Tuesday, August 27<br>9:00 - 12:30              | Engineering Bldg.2 Lecture room 242 (tentative)  |   | Please refer to 2 (1-2)   |
| Oral examination  | Thursday, August 29<br>8:10 - 18:00 (tentative) | Examination room information will be posted by the day prior to the examination.                                 | Admission card, presentation slides (digital format), PC.   | Please attach the applicant's "research plan" sheet to the application form.                          |

#### Notes:

- Examinees need to enter the examination room 20 minutes before the exam begins.
- The venue for the "English (TOEFL-ITP)" examination will be posted on the School of Engineering bulletin board (Engineering Bldg. 8) on Friday, August 23, 2019 at 10:00 AM.
- Please check the Department of EEIS bulletin board (Engineering Bldg. 2 old annex, 4th floor) for any updates or changes to room assignments.
- Applicants who are students from the University of Tokyo's Department of Electrical Engineering and Information Systems, Department of Advanced Energy, and Department of Information & Communication Engineering: in some cases, oral examinations may be held before Thursday, August 29, 2019.
- Applicants who have completed (or are expected to complete) a master's program at the University of Tokyo's Graduate School of Engineering are not required to take the English test.
- Applicants who have graduated (or are expected to graduate) from a master's program in the University of Tokyo's Department of Electrical Engineering and Information Systems, Department of Electrical & Electronic Engineering, Department of Frontier Informatics, Department of Advanced

Energy, or the Department of Information & Communication Engineering are not required to take the English, Regular Education Subject (mathematics), and Specialized Subject (Electrical & Electronic Engineering and Information Engineering) tests.

- Applicants who have graduated (or are expected to graduate) from a master's program in a department other than those listed above at the University of Tokyo may be exempt from the written examinations. Please inquire at the Office of the Department of Electrical Engineering and Information Systems (nyushi20@ee.t.u-tokyo.ac.jp) about examination exemption policies by June 10, 2019.

## 2. Overview of Examinations

### (1) First-Stage Examination

Type-A applicants to the Ph.D. Program must take the English, Regular Education Subject (mathematics) and Specialized Subject (Electrical & Electronic Engineering and Information Engineering) tests.

#### (1-1) Regular Education Subject (Mathematics)

For details, please check "Application Guidelines" for doctoral programs provided by the Graduate School of Engineering, The University of Tokyo. Past examination problems are downloadable at the following pages:

<http://www.t.u-tokyo.ac.jp/soee/admission/general.html>

[https://www.t.u-tokyo.ac.jp/soe/admission/general\\_past.html](https://www.t.u-tokyo.ac.jp/soe/admission/general_past.html)

#### (1-2) Specialized Subject (Electrical & Electronic Engineering and Information Engineering)

The test will cover basic knowledge needed to conduct graduate-level research in Electrical & Electronic Engineering and Information Engineering.

Examinees are requested to choose and answer two problems from Specialized Subject I and two problems from Specialized Subject II.

- Specialized Subject I: Choose and answer two problems out of four (problem subjects include electromagnetism, circuits, information theory, algorithms and programming).
- Specialized Subject II: Choose and answer two problems out of six (problem subjects include computer architecture and digital circuits, communication technology and signal processing, solid-state physics, semiconductor devices, control engineering and electric machinery, electric power and energy system).

For details and past examination problems, please refer to the department homepage (<http://www.eeis.t.u-tokyo.ac.jp/en/index.html>).

#### (1-3) Oral Examination

All applicants must take the oral examination. Applicants will be asked to make a presentation about their master's thesis (even if it is still being written) or equivalent. A Q&A session will follow the presentation, where some questions regarding the applicants' answers for the written examination may be asked as well.

A projector will be provided for the presentation; applicants are expected to bring their own PC and a USB memory stick that contains a copy of their presentation slides. The latter will be used in case the PC cannot be properly connected to the projector. Applicants are to prepare 6 (six) hard copies of the presentation slides. The length of the presentation will be about 20 minutes.

### (2) Second-Stage Examination

An oral examination, focusing on the individual candidate's master's thesis, will be conducted in February 2020 (tentative schedule) for applicants who pass the first-stage examination and are expected to finish their master's program. The actual date will be announced later. For applicants who desire to enroll in our university on September 2019, the first-stage examination will include this second-stage examination, and they will not have this additional oral examination at another day.

### **3. Required Documents**

At the time of application, please prepare (1) an acceptance letter from the preferred supervisor, (2) a “Ph.D. Program Research Plan”, and (3) a reference letter from your current advisor or boss (if required, see (3)) to be submitted along with other necessary documents.

#### **(1) Acceptance Letter from Preferred Supervisor**

Applicants need to contact their preferred supervisor as early as possible before the application, and receive an acceptance letter (which can be a scanned file or a hard copy of the original letter) with the supervisor’s signature.

#### **(2) Ph.D. Program Research Plan**

Research plans should outline the applicant's research methodology and vision in about 1,000 English words (or 2,000 Japanese characters) on single-sided A4 size paper (not stapled). Plans may be prepared in any format as long as the below points are outlined.

- Research goal (including the background and the current international status of the research)
- Details of the research (annual plans, etc.)
- Originality of the research

Applicants must discuss the details of the research to be conducted during their Ph.D. program with their preferred supervisor beforehand.

#### **(3) Reference Letter from Current Advisor or Boss**

Applicants who are currently employed and plan to retain their working status during the study program are required to submit a reference letter from their current boss at work. There are no format restrictions for the reference letter. Please also refer to the corresponding portion of the “Application Guidelines” for doctoral programs provided by the Graduate School of Engineering.

### **4. Important Notice**

The application may be judged invalid if any of the required documents listed above is missing at the time of application.

Entrance examination results may be utilized for the improvement of the future entrance examinations and education at the University of Tokyo.

The Department of Electrical Engineering cannot facilitate a visa for applicants who wish to take the entrance examination.

### **5. Information about Supervisors**

Applicants successfully admitted to the Ph.D. program are directly assigned their preferred supervisors. Applicants need to contact their preferred supervisors as early as possible (before submitting application documents).