# INDIAN STATISTICAL INSTITUTE

## Course-work requirements for Research Fellows in Computer Science

(With effect from the Academic Session 2019-20)

A Junior Research Fellow (JRF) in Computer Science (CS) must complete successfully a total of five courses from the recommended list of courses given below within her/his first two years.

The recommended list of courses from M.Tech. (Computer Science) curriculum to be taken by a JRF in CS appear below in three groups with the number of courses to be taken from each group given in parentheses.

| Group | For CS* | For Non-CS |
|---|---|---|
| **A1** (two) | • Probability & Stochastic Processes<br>• Elements of Algebraic Structures<br>• Optimization Techniques<br>• Logic for Computer Science | • Data and File Structures<br>• Computer Organization<br>• Operating Systems |
| **A2** (two) | • Discrete Mathematics<br>• Design and Analysis of Algorithms<br>• Automata, Languages and Computation<br>• Computer Networks<br>• Database Management Systems<br>• Computer Architecture | |
| **B** (one) | This fifth course may be either from Group A1 or Group A2, or any other course offered for M.Tech.(CS) but is not listed above, as recommended by RFAC of the division in consultation with the Supervisor(s) (if assigned). | |

**\*A JRF with a Master's degree in CS is termed as CS above, and all others as non-CS.**

- Comprehensive Examination in lieu of regular course:

    1. A JRF may apply to the relevant RFAC for appearing in the Comprehensive Examination, only if the JRF has already attended a course on that topic at the Master's level in another institute not more than 5 years ago, and has obtained $\geq 60\%$ or equivalent marks in that or equivalent course.

    2. Comprehensive examinations may be conducted by a relevant RFAC in every semester during the mid-semester examination week. If a regular course on a subject for comprehensive examination is being offered in that semester, the question paper for the comprehensive examination may be preferably set by the faculty member who is teaching the corresponding regular course in that semester.

3. A JRF can take the comprehensive examination for a particular course from the above tabular list of courses only once.

4. If a JRF is either not eligible for comprehensive examination as per item 1 above or has not been successful in the comprehensive examination for a course, she/he will be allowed to complete that regular course in at most two attempts.

5. If a JRF who is eligible for taking comprehensive examination(s) as in item 1 above, opts to take the examination(s), then these examinations must be taken within her/his first year after admission.

- For the sake of uniformity, a JRF who has been awarded an M.Tech. (CS) degree from ISI in the first division not more than five years ago, needs to report to the relevant RFAC that she/he has taken five courses as per the table listed above and has scored $\geq 60\%$ in each of those five courses. Only then would such a JRF get a waiver for each of the five required courses.

**A JRF who has successfully completed five courses as stipulated in the Table above, would be considered to have completed all necessary course requirements for Ph.D. registration at our Institute. However, as recommended by RFAC of the division and, if necessary, in consultation with her/his Supervisor(s) (if assigned), a JRF/SRF may take other regular or research courses offered at our Institute which are related to her/his doctoral dissertation work.**