NATIONAL INSTITUTE OF TECHNOLOGY KURUKSHETRA

PROSPECTUS

Ph.D. PROGRAMME

(2022-2023)

NATIONAL INSTITUTE OF TECHNOLOGY KURUKSHETRA

The National Institute of Technology Kurukshetra (NITKKR), an Institution of National Importance, offers B.Tech., M. Tech., MBA, MCA, and Ph.D. Degree Programmes in all the major disciplines of Engineering, Technology, Sciences, Humanities and Social Sciences, Computer Application, and Business Administration.

The Institute undertakes sponsored research and development projects from various central and state funding agencies, R&D organizations and industries in public and private sectors. The Institute promotes interdisciplinary research aiming to address the emerging development imperatives of the country as envisaged in the New Education Policy (NEP-2020) of Government of India. The Academic Programmes of the Institute promote futuristic education system aligned with the aspirational goals of higher education of 21st Century encompassing Sustainable Development Goal 4 while building upon India's traditional value system.

In National Institute of Technology Kurukshetra, the faculty is entrusted with the responsibility to act at the centre of the fundamental reforms in the educational system. They are the catalysts who truly shape our next generation of citizens. The faculty and students in the Institute are encouraged towards achieving economic and social mobility, inclusion and equality.

The National Institute of Technology Kurukshetra, formerly Regional Engineering College Kurukshetra, was established in 1963 in the state of Haryana. It was conferred the Deemed University status on 26.6.2002, and declared an Institution of National Importance on 15.08.2007. The Institute is funded by the Central Government through the Ministry of Education, Government of India.

The National Institute of Technology Kurukshetra, located on Delhi–Ambala section of Northern Railway at about 160 km from Delhi, is one of the premier Institutes engaged in technical education and research.

Kurukshetra is a place of great religious significance too, where Lord Krishna is said to have delivered the divine message of Shrimad Bhagwad Gita.

Fees & Deposits*

Present prescribed fees payable by Ph.D. research scholars are as under

Institute

Tuition Fee (Full Time/Part Time)   Rs. 10,000/- per semester
Tuition Fee (NRIs/Foreign students)   US $ 2000/- per semester
Institute Fee (Full Time/Part Time) for 1st semester

Sr.No.	Particulars of fee	Amount (Rs.)
1	Students' Activity fee (per sem.)	3100
2	Institute Development Fund (per sem.)	3100
3	Skill Development and Educational Tour (per sem.)	800
4	Examination fee (per sem.)	1400
5	Medical Insurance (per year) only for Full Time Research Scholars	1000
6	Alumni fee (one time)	1400
7	Student Welfare Fund (one time)	700
8	Admission/Registration fee (one time)	1400
9	Watch & Ward/Tpt. Exps. (one time)	5000
10	Convocation (one time)	2200
11	Library fee (one time)	700
12	Institute Security (refundable one time)	6400
13	Library Security (refundable one time)	1400

Thesis Submission Fee   Rs. 10000/-

Hostel/Faculty House/Other Residential Place

1) Hostel accommodation shall be allotted only to the full time research scholars subject to availability of the rooms in the hostels.
2) Full time research scholars receiving any type of Govt. funded scholarship/fellowship will be provided rent free accommodation in the Institute hostels.
3) In case of unavailability of the hostel rooms, the research scholar awarded with the Institute scholarship will be provided HRA as per norms of the Central Government.
4) Faculty House/Other Residential Place shall be provided to the married full time research scholars, subject to availability, on the prescribed room rent and other charges as decided by the Institute authority.
5) Hostel accommodation facility may be extended for maximum 3 months beyond the date of submission of Ph.D. thesis.

*Subject to revision from time to time by the Ministry of Education, Govt. of India and/or the Institute.

Ph.D. Programme

The Doctor of Philosophy (Ph.D.) Programme is offered by the following Departments / Schools in the related areas of specializations.

- Department of Civil Engineering
- Department of Electrical Engineering
- Department of Electronics and Communication Engineering
- Department of Computer Engineering *
- Department of Mechanical Engineering **
- Department of Physics
- Department of Chemistry
- Department of Humanities and Social Sciences
- Department of Mathematics
- School of VLSI Design and Embedded System
- School of Renewable Energy and Efficiency
- Department of Business Administration
- Department of Computer Application

**The department also runs the programme of Information Technology

** The department also runs the programme of Production and Industrial Engineering

The provisions contained in these Regulations shall also be applicable to any new Doctoral Research Programme, either by any of the departments, or even possibly as inter (multi) disciplinary Programme, that may be introduced from time to time.

Admissions to Ph.D. Programme

The admissions to Ph.D. Programme (Full Time/Part Time) in the Departments/Schools of Engineering, Technology, Sciences, Humanities and Social Sciences, Computer Application, and Business Administration are conducted twice in an academic year (odd and even semesters). The Institute reserves the right to suspend the admission process in Ph.D. Programme if warrants so due to certain force majeure.

Research Areas:

Advertisement should include the details of seats as per specializations/research areas to be offered by the respective Departments/Schools. Seats are to be advertised as per the slots and availability of the supervisors in the concerned research areas. These research areas are to be provided by the concerned Departmental Research Committee (DRC)/School Research Committee (SRC), well before the commencement of the semester. Areas should be aligned with the current research across the world. Departments /Schools are required to update, from time to time (specifically before the start of any semester), the list of the faculty members giving details of their research interests and the number of Ph.D. research scholars being supervised both within and outside the institute.

Contacts & Email IDs

The contact details of the officials/offices are given as under: -

Designation	Office (01744)	Email ID
Dean (Academic)	233223	dean_academic@nitkkr.ac.in
Associate Dean (Academic)	233225	asvravikanth@nitkkr.ac.in
Prof-in-charge (Examination)	233239	examinations@nitkkr.ac.in
Deputy Registrar (Academic)	233227	dr1@nitkkr.ac.in
Ph.D. Desk, Academic section	233229	phd@nitkkr.ac.in
Department of Civil Engineering	233334	hodcednitk@gmail.com
Department Computer Engineering	233479	coengg@nitkkr.ac.in
Department of Electrical Engineering	233371	hodee@nitkkr.ac.in
Department of Electronics and Communication Engineering	233414	hodece@nitkkr.ac.in
Department of Mechanical Engineering	233447	hodmechanical@nitkkr.ac.in
Department of Physics	233494	hodphysics@nitkkr.ac.in
Department of Chemistry	233510	hodchemistry.nitkkr@gmail.com
Department of Humanities and Social Sciences	233516	humss5@nitkkr.ac.in
Department of Mathematics	233504	hodmaths@nitkkr.ac.in
Department of Business Administration	233524	mba@nitkkr.ac.in

Department of Computer Application	233540	ca.nitkkr@gmail.com
School of VLSI Design and Embedded Systems	233440	nitkkr.sve@gmail.com
School of Renewable Energy and Efficiency	233148	sree@nitkkr.ac.in

NATIONAL INSTITUTE OF TECHNOLOGY KURUKSHETRA
ORDINANCES
for the
DEGREE OF THE DOCTOR OF PHILOSOPHY

PREAMBLE

The National Institute of Technology Kurukshetra offers, through its Departments/Schools, postgraduate programmes leading to the award of the Ph.D. Degree. The award of the Doctorate degree is in recognition of high academic attainments, quality research, and application of knowledge to the solution of problems of the industry in particular and society at large.

The NEP-2020 focuses on research and innovation by setting up start-up incubation centres; technology development centres through innovative research, centres in frontier areas of research, effective industry-academic interfaces, and interdisciplinary research. The National Institute of Technology Kurukshetra is committed towards the development of such kind of world class global Institution of higher learning by implementing innovative technological driven research.

The Institute undertakes sponsored research and development projects from industry and other organizations in the public and private sector. The Institute also provides opportunities for research in interdisciplinary areas through a system of joint-supervision.

The research work is required to be original work characterized either by the discovery of facts, or by a fresh approach towards the interpretation and application of facts, or development of process and services, making a significant and distinct advance in technology. It shall evince the scholar's capacity for critical examination and sound judgement and shall represent original contribution to the existing knowledge domain.

ORDINANCE

O-01 DEFINITIONS

(i) **"NITKKR"** shall mean the National Institute of Technology Kurukshetra.

(ii) **"Research Scholar"** shall mean a person who is registered in the Ph.D. programme in any Department/School of NITKKR.

(iii)**"Part-time Research Scholar"** shall mean a research scholar who in addition to devoting time towards discharging the employment responsibilities also devotes time towards the pursuit of Ph.D. research programme.

(iv)**"Full-time Research Scholar"** shall mean a research scholar devoting full time in Department / School at NITKKR towards the pursuit of Ph.D. research programme.

(v) **"Supervisor"** shall mean a member of the regular academic staff of NITKKR, appointed by the concerned DRC/SRC to supervise the Ph.D. work of the research scholar.

(vi) **"Co-Supervisor"** shall mean additional supervisor as appointed by the DRC / SRC.
The Co-supervisor(s) may be from either of the following:
  (a) National Institute of Technology Kurukshetra.
  (b) Faculty from Institute/University having top 100 NIRF ranking in any of the categories.
  (c) CFTIs/Universities fully funded by central Government/PSUs/ R&D organization/Industry duly incorporated in India
  (d) Faculty from the Universities/Institutions in the top 500 QS/THE global ranking
Co-supervisor from outside the Institute must have the academic qualifications and research credentials as prescribed for a supervisor.

"Caretaker Supervisor" shall mean a supervisor appointed to look after the scholar's research interests in the absence of the regular supervisor when the synopsis of the thesis has been submitted. The caretaker supervisor also must have the academic and research qualifications as prescribed for a supervisor.

(vii) **"Educational Institute"** shall mean those institutes which run full-time Bachelor's or higher degree programmes.

(viii) **"ORG"** shall mean a PSU / Government Department / R&D Unit.

(ix) **"Registration Period"** shall mean the length of the time span for which a person remains a research scholar.

(x) **"Minimum Registration Period"** shall mean the minimum period for which a research scholar must remain registered to complete the requirements for degree of Ph.D.

(xi) **"Degree"** shall mean the Degree of Doctor of Philosophy (Ph.D.) of NITKKR.

(xii) **"HoD"** shall mean Head of Department in which a Research Scholar is registered/proposes to register.

(xiii) **"DRC/ SRC"** shall mean the Departmental/School Research Committee of a Department/School of NITKKR.

(xiv) **"BoS"** shall mean the Board of Studies of a Department/School of NITKKR.

O-02 GENERAL

1. These Ordinances / Ph.D. regulations shall be applicable to those research scholars who are getting admission in Ph.D. programme at NITKKR from academic session 2022-23 onward, unless there is some change incorporated in subsequent year. All eligibility criteria must be satisfied on the last date of receipt of application, failing which application will be rejected.

2. The qualifying degree as well as the University of qualifying degree must be recognized by AICTE, UGC or Ministry of Education (MoE) as the case may be. This will be verified by the Academic Section of NITKKR and its decision in this regard will be final.

3. The applicant, if employed, must send application through the competent authority/proper channel. The date of initial registration of the research scholar shall normally be the date on which the research scholar reports in the respective Department / School and submits the joining report.

4. In case of change of status from full-time to part-time, the time spent as a full-time research scholar will be taken into account for the purpose of minimum registration period requirement. The research scholar must have completed a minimum of two years as full-time research scholar at the institute for change of status from full time to part time. However, the maximum period of registration shall remain same as that of regular research scholar. The recommendations of the DRC are mandatory in such cases.

5. If the research scholar withdraws from Ph.D. programme or the research scholar's admission is terminated due to any reason (other than completing maximum period of registration), the research scholar status ceases w.e.f. the date of such an act. Such research scholar cannot apply again for registration before the lapse of one year from the date of de-registration.

6. At the close of every semester, the research scholar is required to submit the semester progress report by 30th June for even semester and 31st December for odd Semester to the Chairperson of the DRC/SRC. Semester progress report is to be submitted through research supervisor(s) with remarks of all the supervisor(s) duly recorded as satisfactory/unsatisfactory. The progress shall be evaluated by the DRC/SRC and the result of evaluation recorded as satisfactory/unsatisfactory on the registration form of the research scholar for the subsequent semester. The registration form shall be forwarded by the Chairperson, DRC/SRC to the Dean (Academic).

7. The research scholar should be present in the Department/School when a DRC/SRC meeting is held for evaluating research scholar's performance for any purpose.

8. If due to compelling adverse circumstances (as considered so by the DRC/ SRC), a research scholar is not able to submit the progress report by the stipulated date, or the progress of the research scholar is adjudged by the DRC/SRC as unsatisfactory, the Research Scholar, on request, can be allowed an additional chance for the same. The research scholar is expected to improve the research work and submit the progress report again at the close of the following semester (after six months). During this semester, the research scholar can be registered provisionally only (the

normal semester fees, however, will have to be paid), and the minimum registration period requirement will automatically get extended by six months. Further, if the research scholar receives scholarship, the scholarship for these six months will be stopped.

If, even on having been granted extension, the research scholar does not submit the progress report within the stipulated time or on resubmission also, the progress is adjudged as unsatisfactory; the registration shall be recommended for cancellation by the respective DRC/SRC.

Only one such chance can be granted to the research scholar during the entire Ph.D. programme.

9. The research scholar must complete course work within two initial semesters from the date of registration.

10. The research scholar should submit the research plan proposal and pass the comprehensive examination within 12-18 months of the initial registration. If due to compelling adverse circumstances (as considered so by the DRC/SRC), the research scholar is not able to submit the research plan proposal and appear in the comprehensive examination as stipulated above, or the research scholar is not able to pass the comprehensive examination within 12-18 months' period, the research scholar, on request, can be granted an extension of six months on the recommendation of the DRC/SRC. During this extension period, the research scholar can be registered provisionally only (the normal semester fees, however, will have to be paid), and minimum registration period requirement will automatically get extended by six months. Further, if the research scholar receives scholarship, the scholarship for these six months will be stopped. Only one such chance can be allowed to the research scholar. If the research scholar fails to qualify the comprehensive examination even after getting extension of six months, the research scholar's registration will be recommended for cancellation by the concerned DRC/SRC.

11. The research scholar must request and submit the research plan proposal to the HoD/School Coordinator well in time (at least fifteen days in advance), through respective supervisor(s), for appearing in the comprehensive examination.

12. The research scholar shall be allowed to deliver pre-synopsis seminar only after completing the course requirements and publishing/getting acceptance for at least two research papers out of scholar's Ph.D. research work in non-paid peer reviewed SCI/SCIE/Scopus Journals. The research scholar must request and submit the pre-synopsis proposal to the HoD/School Coordinator well in time (at least fifteen days in advance), through respective supervisor(s), for delivering the pre-synopsis seminar. The request of the research scholar shall be processed by the concerned DRC/SRC within three weeks of the request received.

13. The research scholar is required to complete all the requirements for the award of the Ph.D. Degree within the specified period as per the regulations failing which the DRC/SRC will recommend the case for de-registration.

14. Every research scholar is to abide by all the regulations and the amendments made in regulations from time to time. However, the eligibility conditions for submission of thesis shall remain same as existing at the time of admission.

15. It is the responsibility of the research scholar to be in the knowledge of the amendments, if any, in the ordinance and the regulations. No research scholar will be informed individually. The related circulars/amendments would be available in the office of the HoD/School Coordinator/Dean (Academic). The amendments are incorporated in the prospectus and the amended version is put on the Institute website also. The research scholar is required to visit the Institute website regularly to remain updated about amendments, if any. The scholar should maintain regular contact with the supervisor(s) for the purpose.

16. No TA/DA etc. is admissible to any research scholar whenever the research scholar is to visit NITKKR, or any other place in connection with the scholar's Ph.D. research work.

17. In case of a change in the contact details, the research scholar must immediately inform the supervisor, the HoD concerned and the Dean (Academic) for updation of records.

18. If, at any time after admission, it is found that the research scholar had not in fact fulfilled all the requirements stipulated in the offer of admission, in any form whatsoever, including possible misinformation etc., the matter shall be reported to the Senate, recommending revoking the admission of the research scholar.

19. The Institute reserves the right to cancel the admission/registration of any research scholar and ask the research scholar to discontinue studies at any stage of the research scholar career on the grounds of unsatisfactory academic performance or indiscipline or any misconduct.

<u>**O-03 REGULATIONS**</u>

The admission in Ph.D. programme will be regulated by the regulations made and approved by the Senate from time to time. The following regulations shall apply to all categories of research scholars pursuing Ph.D. programme of the Institute.

R-1 CLASSIFICATIONS

The research scholars shall be classified in the following manner

(A) *On the basis of the time devoted to the Ph.D. programme*
    i) Full-time (ii) Part-time

(B) *On the basis of the occupation*

    i) Teacher, a person serving as the faculty of a department of a teaching institute.

    ii) Non-Teacher, a person serving as non-teaching employee including officer cadre of any Institute/Department, Organization.

    iii) Project staff, a person working on a project undertaken by the Institute (NITKKR). The Ph.D. programme of such a person should be related to the project work.

(C) *On the basis of the country*

    i) Indian, a person holding valid Indian citizenship

    ii) Foreigner, foreign nationals admitted through the Embassy of the respective Governments, after getting approval from the Ministry of External Affairs and 'No Objection Certificate' from the Ministry of Education, Government of India or admitted under an MoU. A foreign national can be admitted by the Institute directly, if eligible, following the admission process as specified under R-5.

(D) *On the basis of the financial assistance*

    i) Self-financed, the research scholar who does not receive financial support (scholarship/assistantship) of the Institute, or from any other source during the Ph.D. programme. The institute reserves the right for admission under this category.

    ii) Fellowship / Scholarship Awardees
        (a) A research scholar getting Institute fellowship / scholarship.
        (b) A research scholar receiving fellowship / scholarship from Government/Semi-Government such as CSIR / UGC / DOE / DST / DBT / NBHM/ INSPIRE etc.
        (c) A research scholar receiving fellowship / scholarship from ICCR, Govt. of India or any institution of the Govt. of India.
        (d) A research scholar receiving scholarship from any private entity including foreign University, Trust or sponsoring agency.

There is a provision in the Institute for conducting research work abroad while pursuing Ph.D. Programme at the Institute under different schemes including SERB / USIEF / Fulbright / SERB-Purdue OVDE / Commonwealth Split-Scholarship scheme, and working place of the foreign co-supervisor with the following guidelines: -

1. The research scholar should be registered for a full time Ph.D. programme at NITKKR.
2. Only one visit of maximum one-year duration by a research scholar will be allowed during the entire Ph.D. research work duration.
3. The research scholar may apply for such a programme. The research scholar shall be allowed to proceed having cleared the comprehensive exam and the research plan approved by the respective DRC / SRC.
4. The research scholar for such visit must fulfil the following requirements:
   i) All previous progress reports of the Ph.D. research scholar should be satisfactory.
   ii) The research scholars who have already submitted Ph.D. Synopsis are not eligible to apply.
5. DRC/SRC should be satisfied with the research proposal submitted for carrying out such research and the research proposal should be part of the ongoing Ph.D. work.
6. The time period of such work will be considered as a part of Ph.D. programme duration. The total period of Ph.D. duration will be as per the Institute rules.

7. The research scholar will continue to register at NITKKR for the semesters during such visit by completing registration formalities and fee submission.
8. During the stay in the university abroad the progress report of the research scholar should remain satisfactory.
9. If the research scholar is getting an Institute or any other government scholarship, the Institute will stop payment of such scholarship and any other contingent expenses to the research scholar for the duration of such research activity abroad.
10. The foreign supervisor may be invited to be the part of the DRC/SRC meetings for the respective <u>Ph.D.</u> research scholar for work evaluation / pre-synopsis / viva-voce etc. No TA/DA and honorarium will be paid by the Institute for attending such meetings. The foreign supervisor may join the proceedings through online mode.
11. Joint publications / patents made by the research scholar along with the foreign supervisor will be accepted by DRC/SRC and the Institute.
12. The application under the proposal will be forwarded by the DRC/SRC to the Dean (Academic) for verification and necessary approvals if so required.
13. There will be no financial liability on NITKKR for undertaking such visits.

R-2 CONSTITUTION OF DRC/SRC

The DRC/SRC shall consist of the following, provided each member qualifies to be a Ph.D. Supervisor:

   i. HoD/School Coordinator*.
   ii. All Professors of the Department/School.
   iii. Three Associate Professors of the Department/School by rotation. The term of an Associate Professor will be two years. The changeover will be effective on 1st July of the year.
   iv. Two Assistant Professors of the Department/School by rotation. The term of an Assistant Professor will be two years. The changeover will be effective on 1st July of the year.
   v. Supervisors of the scholars, though they may not constitute regular members (unless covered under (i) or (ii) or (iii) or (iv)), but they will participate in DRC/SRC meetings when the cases of their respective scholars are taken up.

For the Departments of Applied Sciences/Business Administration/Computer Application, and the Schools, if the number of total members including Chairperson is less than five, then additional member(s) may be opted from other Departments/Schools, having requisite eligibility qualifications for Ph.D. Supervision, for two years. They will be nominated by the Director.

For Engineering Departments, if the total number of members including Chairperson is less than seven, then additional member(s) may be opted from the allied Departments. They will be nominated by the Director.

* The HoD/School Coordinator shall be the Chairperson of the DRC/SRC. If the HoD/School Coordinator does not qualify to be a Ph.D. supervisor, the senior most qualifying faculty member of the Department/School will act as the Chairperson of the DRC/SRC. Faculty members, qualified to be the supervisors, can only be members of DRC/SRC. If the Chairperson of the DRC/SRC is not able to attend a DRC/SRC meeting due to compelling reasons, the senior most DRC/SRC member will work as Chairperson, DRC/SRC.

If the Co-supervisor of the research scholar is from outside NITKKR but from within the country, Co-supervisor will be invited for the DRC/SRC meetings whenever respective scholar's comprehensive, pre-synopsis seminar and final examination are conducted. In all such cases, no TA/DA /honorarium will be paid for this purpose. The Co-supervisor may join through online mode.

DRC/SRC requires the approval of the Director as and when constituted. At least 50% of the total members should be present during the proceedings of DRC/SRC.

Minutes of all DRC/SRC meetings will be sent to the Dean (Academic).

R-3 ELIGIBILITY

R-3.1 Educational Qualifications:

(a) The candidate possessing the prescribed qualifications shall be eligible for admission to the Ph.D. programme of the Institute. The Degrees obtained through distance education programmes shall not be considered.

The academic programme as well as the University of qualifying degree must be recognized by AICTE /UGC. The academic programme of the autonomous Institutes established by the Parliament will not be required to have recognition of the UGC/AICTE. The degrees and academic programme of the Institute/University will be verified by the Academic Section before registration of the candidate in Ph.D. Programme.

(b) Minimum Qualification for Eligibility:

A Master's Degree in Engineering/Technology/Sciences/Humanities and Social Sciences/ Management or equivalent recognised by the Institute with a minimum Cumulative Grade Point Average (CGPA) of 6.5 on a 10-point scale or equivalent as determined by the Institute wherever letter grades are awarded in the qualifying degree, or 60% marks in aggregate where marks are awarded.

The candidate having Master's Degree must possess full time Bachelor's Degree or equivalent in accordance with R-3.1(a)) also with a minimum CGPA of 6.5 on a 10-point scale or equivalent as determined by the Institute wherever letter grades are awarded in the qualifying degree, or 60% marks in aggregate where marks are awarded.

OR

Full time Bachelor's Degree in Engineering /Technology or equivalent with a minimum of 80% marks in aggregate or 8.0 CGPA on 10-point scale or equivalent and a minimum of 5 years of work experience at the level of Assistant Professor, Class-I Officer or equivalent in any reputed Institute/Industry/Government organization, and evidence of Master's level R&D work completed.

R-3.2 Additional Eligibility Conditions for Part-Time Ph.D. Programme

(i) **Permanent/Regular Employees** working in R&D Organisations, National Laboratories, Government Organizations, Industries, PSUs, State Undertakings having sufficient facilities to carry out research at their Organisation.

(ii) **Regular faculty** of reputed Institute/University having sufficient facilities to carry out research at their place in the related research area.

(iii) **Regular Employees** of NITKKR working in any Department/School, Centre, Section and Cell of the Institute.

All such candidates should have a minimum experience of two years which will be counted from the date of joining in the sponsoring organizations to the last date of application in the Ph.D. programme. The candidate is required to produce the experience certificate at the time of interview by the respective DRC/SRC. Minimum qualification for these candidates is the same as for full-time candidates.

Part-time candidates are required to submit a "**No Objection Certificate**" on a proper letterhead from the appropriate authority in the organization clearly stating the following:

● That the candidate is permitted to pursue the Ph.D. research work on a part-time basis.

● That the candidate's official duties permit the candidate to devote sufficient time for research work.

● That the facilities for the research work in the candidate's field of research work are available at the candidate's place of work.

● That the candidate will be sanctioned leave for sufficient duration for conduct of research work in case the research facilities are not available in the Institute/Industry/Organization.

R-3.3 Eligibility for Institute Scholarship#

(i) Only GATE/UGC-NET qualified research scholars shall be considered for the award of the Institute scholarship.

(ii) A Full-time research scholar may receive Institute scholarship for a maximum duration of FIVE years of the Ph.D. programme, subject to fulfilling the requirements of eligibility for the scholarship over the successive years of Ph.D. registration period.

(iii) Initial award of the scholarship at the time of Provisional admission to Ph.D. programme will continue for two years from the date of the issue of the scholarship subject to satisfactory performance in every semester. In addition to above, there shall be annual assessment of the performance of the Ph.D. research scholar for continuation of the scholarship on the basis of achievement of milestones in the scholar's Ph.D. research work as per table given below:

Period of Registration (Years Completed)	Period of Scholarship /Fellowship	Minimum Requirement
02	3rd year	(i). Successful completion of Ph.D. Course work with min. 7.0/10.0 CGPA (ii) Successful completion of the comprehensive examination and approval of the research plan (iii) Acceptance/presentation of one research paper in National/International level conference out of the Ph.D. research work with affiliation to NITKKR OR 01 research paper out of the Ph.D. research wok accepted/published in SCI/SCIE/Scopus indexed non-paid journal with affiliation to NITKKR
03	4th year	01 research paper out of the Ph.D. research work accepted/published in SCI/SCIE/Scopus indexed non-paid journal with affiliation to NITKKR
04	5th year	02 research papers out of the Ph.D. research work accepted/ published in SCI/SCIE/Scopus indexed non-paid journal with affiliation to NITKKR

Scholarships once discontinued will be restored as and when eligibility conditions (as above) are acquired. However, this will be effective from the 1st day of the next month.

 # The scholars receiving Scholarship/Fellowship from external Govt./Autonomous organizations shall be governed by the rule and regulations issued and amended by the respective Govt./Autonomous organizations.

(iv) No student can receive Scholarship/Fellowship from more than one source.

R-4 RESERVATION/ RELAXATION

R-4.1 Reservation Norms

Reservation in full time/regular Ph.D. seats in various categories will be made as per the norms of the Government of India amended from time to time. Such reservations in various categories will be implemented in all Departments/Schools on a rotational basis.

R-4.2 Relaxation of Eligibility for SC, ST, and OBC

For the SC/ST/PwD candidates, the eligibility requirement of marks/CGPA will be relaxed by 5%, or by a CGPA of 0.5 (on a 10-point scale) at both the Bachelor's and Master's level under R-3.1.

R-4.3 Exemption from written (entrance) Test

(a) Part-Time Ph.D. programme:
Regular employees of R&D Organization, National Laboratories, Public/Private Industry/PSUs/

State Undertakings having an MoU with NITKKR and with adequate research facilities possessing First Division or 6.5 CGPA on 10-point scale or equivalent at M.Tech./PG level with minimum 5 years of relevant experience will be exempted from the written test.

(b) Full-Time Ph.D. Programme:

NET-JRF from UGC, CSIR etc. qualified candidates

However, they shall be required to appear before the DRC/SRC for interview/interaction and qualify as per the prescribed norms in terms of the eligibility conditions.

R-4.4: Ph.D. Coursework

The candidates admitted under R-4.3(a) may be allowed to undertake Ph.D. course work through regular/blended/Online classes or MOOCs platforms. The detailed guidelines in this regard are as under:

1. The MOOCs courses are available for UG, UG/PG, and PG. The Ph.D. research scholars can opt MOOCs courses meant for PG only.
2. The registration fee for MOOCs courses will be borne by the research scholars themselves.
3. The research scholars can opt for MOOCs courses of minimum 12 weeks' duration which are equivalent to courses of 3 credits. The online course of duration less than 12 weeks will not be considered.
4. The course on 'Research Methodology' for Ph.D. students is of 4 credits. The research scholars can opt for this course MOOCs only if the course is of 14 to 16 weeks' duration.
5. The course coordinator of the concerned subject will verify that the MOOCs course broadly matches the course contents offered in PG curriculum of the Institute and will recommend the course to the concerned HoD/School Coordinator on the request of the research scholars.
6. After permission of HoD/School Coordinator, the research scholars will register for MOOCs courses and the Department/School will send the information to Academic Section regarding the courses registered on MOOCs in respective Department/School.
7. After successful completion of the course, the final result will be sent to Academic Section through concerned HoD/School Coordinator and proportionate credits will be awarded if required. In case, the result of MOOCs course is in terms of percentage of marks, then it will be converted to equivalent grade as per Institute norms on the submission of marks sheet/certificate issued by agency (SWYAM/NPTEL etc.).
8. The MOOCs courses permitted by the concerned Department/School will be reflected on DMC of the concerned research scholar only on successful completion of the course.

R-5 ADMISSION

Applications for Ph.D. Programme are to be invited from Indian and foreign nationals in the prescribed format. Applications as received will be scrutinized by the DRC/SRC of the concerned Department/ School. After scrutiny, the list of all eligible candidates will be uploaded on the Institute website by the Office of the Dean (Academic).

(a) All eligible candidates are required to appear in an objective type (MCQ) written test of PG level comprising two papers as mentioned below:

- Paper-I*: Analytical skills, Reasoning, Aptitude: 30 marks; Duration: 30 minutes
- Paper-II: Area of Research/ Specialization: 40 marks; Duration: 40 minutes
  Qualifying marks**: 50 % of total marks (35 out of 70 marks).

The written test will be conducted by the respective Department/School. Detailed guidelines for conducting the entrance test along with timeline will be provided by Dean (Academic).

*Common to all Depts./Schools
** Relaxation as per the Govt. of India norms

(b) List of the qualified candidates will be uploaded on the Institute website by the HoDs/ Coordinators of respective Departments/Schools.

(c) All qualified candidates will be required to appear before the respective DRC/SRC for an interview/interaction comprising a brief power point presentation on the related research area. Qualified candidates may contact prospective supervisors in the Department/School.

(d) DRC/SRC will evaluate the candidates and award the marks out of 30 (10 marks each for presentation, interview, and academic achievements).
Qualifying marks: 50% (15 out of 30 marks)**

** Relaxation as per the Govt. of India norms

(e) Based upon their performance in both written test and interaction/interview with DRC / SRC, respective DRC / SRC will recommend the merit list of candidates prepared on the basis of total score out of 100 along with allocation of the seat in accordance with the advertisement and the respective allotted supervisor(s).

Such allotment should take care of uniform distribution of full-time research scholars (including candidates from other Departments/Schools) among all eligible supervisors.

Qualified scholars working in Govt./R&D Org./Industry sponsored project/fellowship are to be supervised by the coordinating faculty/ Principal Investigator (PI), provided the faculty/PI is eligible to become supervisor.

In case of tie, merit list will be prepared on the basis of following criteria in order of preference:

(i)   Performance of the candidate in written test
(ii)   Percentage of marks in qualifying degree
(iii)   Percentage of marks in 10+2
(iv)   Percentage of marks in 10th
(v)   Seniority as per Date of Birth

(f) After receiving the merit list as mentioned above, Dean (Academic) will issue the admission letters to recommended candidates for joining the Ph.D. programme.

(g) The respective HoD/School Co-ordinator will send joining reports of the respective research scholars to the office of the Dean (Academic) in time.

R-6 REGISTRATION

R-6.1 Registration Process

A candidate is deemed to have been registered on completion of the admission process for the 1st semester of the programme. Every research scholar is required to deposit the fees and renew the semester registration till the submission of the thesis. The renewal of registration every semester shall be subject to the satisfactory progress of the research work made by the research scholar in the preceding semester as recommended by the DRC/ SRC. If the progress report of the research scholar is adjudged as unsatisfactory, the DRC / SRC may recommend provisional registration; however, such a chance can be allowed only once during the entire Ph.D. programme.

R-6.2 Time Period Requirement for Thesis Submission

(a) The minimum period of registration for thesis submission shall be three years and four years for the full-time and the part-time research scholars, respectively.

(b) Registration of a candidate for the Ph.D. degree shall be effective, normally, from the date of joining unless on account of unsatisfactory progress in work deferred for a later date and shall remain valid for a period of 5 years for full-time and 6 years for part-time before the expiry of which the research scholar will be required to submit the thesis. However, the research scholar may be considered for extension beyond this period for one year only if the research scholar has published / got accepted at least one research paper out of the Ph.D. research work in non-paid peer reviewed SCI/SCIE/Scopus Journals.

Registration may be extended up to a maximum period of one year by the Dean (Academic) on the recommendation of DRC / SRC. After the expiry of the registration period (with/without extension), the registration shall stand cancelled automatically and the research scholar may go for re-registration as per clause 6.3. In case the research scholar does not opt for re-registration, the

concerned Department/School must recommend the cancelation of the registration to the Dean (Academic) for approval of the Competent Authority.

R-6.3 Re-Registration

(a) The research scholar will request the Chairperson DRC/SRC with the recommendations of respective supervisor(s) for re-registration within a period of 3 months of cancellation of registration as per R-6.2. Supervisor(s) will recommend re-registration only if the quantum of required work and publication requirements for submission of Ph.D. thesis can be completed within the next two years.

(b) The application of the research scholar will be forwarded/recommended through DRC / SRC and Dean (Academic) to the Director who may allow for re-registration. If allowed, the research scholar will deposit a re-registration fee of Rs. 20,000/- (Rupees Twenty Thousand only) and the date of submission of re-registration fee will be considered as date of re-registration. In addition to the re-registration fee, the normal semester registration fee of current semester will be payable, if not already paid. The semester registration fee for upcoming semesters will be payable as per rules.

(c) The previous results of the research scholar's course work and comprehensive examinations, if any, will be valid and the research scholar need not repeat these steps again.

(d) The re-registered research scholar will not be permitted to submit thesis before one year of re-registration. The maximum period for the re-registered research scholar to submit thesis will be two years, beyond which the re-registration will stand cancelled automatically and no further re-registration will be possible under any regulation/ordinance of the Ph.D. programme.

(e) The eligibility conditions (regarding publication requirements etc.) for submission of thesis shall remain same as applicable on the research scholar before the cancellation of registration. For all other rules, the research scholar is to abide by regulations and amendments made in regulations from time to time.

R 6.4 TEMPORARY WITHDRAWAL

The research scholar who has been admitted to Ph.D. programme may be permitted to withdraw temporarily for a period of one semester from the Institute on account of prolonged illness/acute problem in the family, provided that

(a) The research scholar has applied to DRC / SRC for consideration and recommendation to the Dean(Academic).

(b) The Institute has to satisfy that, inclusive of the period of withdrawal, the research scholar is likely to complete all the requirements for the degree within 5 years (full time) or 6 years (part time) of admission to the Programme.

(c) There are no outstanding dues on behalf of the Institute/ Department/ Centre/ Hostel / Library etc.

The research scholar who has been granted temporary withdrawal for a complete semester need not to pay tuition fee for the leave period. The research scholar shall be granted only one such temporary withdrawal during the Ph.D. programme.

R-7 THESIS SUPERVISOR(s)

R-7.1 Allotment of Supervisor

Every registered research scholar shall be assigned a Ph.D. thesis supervisor as approved by the DRC/ SRC of respective Department/School.

R-7.2 Eligibility for Supervisor and Co-supervisor

(a) Any regular faculty of the Institute with at least five research publications in refereed non-paid journals (SCI/SCIE/Scopus) can be appointed as Supervisor and with at least three research publications in refereed non-paid journals (SCI / SCIE / Scopus) can be appointed as Co-supervisor,

only on recommendations of respective DRC / SRC of concerned Department/School.

However, the regular faculty of the Institute having minimum three research papers published/got accepted in refereed non-paid journals (SCI / SCIE / Scopus) with at least one research paper published/ got accepted post Ph.D. in non-paid SCI / SCIE journal may be appointed as Supervisor subject to the condition that such faculty member will be allotted **only one** candidate until that faculty fulfils the requirement of minimum five research publications in refereed non-paid journals (SCI / SCIE / Scopus).

R-7.3 Maximum number of Co-supervisors

Depending on the problem statement of research work to be conducted, a research scholar may be assigned upto THREE supervisors, designated as supervisor and co-supervisor(s).

(a) If there is request from the research scholar for allocation of co-supervisor(s), the justifications/ reasons must be recorded for the necessity of the same by the DRC / SRC. Co-supervisor(s) can be appointed only a priori to passing the comprehensive evaluation and approval of the research plan of the respective research scholar.

(b) Eligible faculty members, who are to retire within 3 years, can be appointed only as co-supervisors. However, they can be members of the DRC/SRC, if otherwise eligible, as per rules.

R-7.4 Appointment of Alternate Supervisor

Internal faculty member appointed as Ph.D. supervisor is normally expected to be available to the research scholar in the Institute till the thesis is submitted.

In case, the supervisor proceeds on leave for a period of up to 12 months, he/she will continue to act as supervisor (main or co-supervisor). Otherwise, if not interested, he/she will inform in writing. Co-supervisor to be appointed in case he/she is sole supervisor.

In case sole supervisor moves on long leave (more than 12 months) to serve at a reputed Government laboratory / reputed research organization / reputed Institutes or Universities or industries in India, DRC/SRC will appoint co-supervisor with the consent of the research scholar and the main supervisor. However, the status of main supervisor/co-supervisor will interchange, in case the main supervisor does not join the Institute within 12 months.

In case of two internal supervisors, if one supervisor moves on long leave (more than 12 months) to serve at a reputed Government laboratory / reputed research organization / reputed Institutes or Universities or industries in India, he / she may be allowed to act as supervisor/co-supervisor. However, the status of main supervisor/co-supervisor will interchange, in case the main supervisor does not join the Institute within 12 months.

In case the research scholar has not submitted the thesis and sole supervisor resigns, retires or expires, an alternate supervisor may be appointed by the DRC/SRC after discussion with the research scholar.

In case the research scholar has submitted the thesis and sole supervisor resigns, retires, or expires, an alternate supervisor may be appointed by the DRC/SRC as caretaker supervisor after discussion with the research scholar. In case of major revision, the caretaker supervisor will provide the required help during that period and he/she will be automatically treated as main supervisor.

If there are two internal supervisors and one of them resigns, retires or expires, then automatically the other will be the main supervisor.

R-7.5 Maximum Number of Research Scholars for Faculty

At no point of time, there shall be more than eight research scholars, including scholars from outside NITKKR, being supervised by any faculty member. This number excludes Ph. D. research scholars who have submitted Ph. D. theses. Faculty members are required to seek permission of the Dean (Academic) for supervising the scholars registered outside the Institute before giving their consent to the outside Institute/University for Supervision of Ph.D. research scholars.

R-8 COURSES AND CREDITS

R 8.1 Coursework Credits and Performance

The minimum course credit requirement is 15. A research scholar will be required to complete the course work with a minimum CGPA of 7.0 out of maximum 10.0. The research scholar can register for these courses with due approval of the respective research supervisor(s) only.

R 8.2 Mandatory Courses

The courses on (i) **Research Methodology** (4 credits) and (ii) **Research & Publication Ethics** (2 credits) will be compulsory for all research scholars.

R 8.3 Calculation of the CGPA in Coursework

The CGPA shall be computed on the basis of letter grades obtained in all courses including MOOCs courses.

R 8.4 Relaxation in Ph.D. Course Work

In case of part-time external candidates with at least 5 years of research experience in R&D Organisations/National Laboratories/Government Organization, residential requirements may be waived off with the approval of the senate. But it will be mandatory for such research scholars to complete the course work for the prescribed number of credits in self-study mode, exercising all pedagogy components including assignments, examinations as prescribed for regular course at NITKKR. However, at least one seminar per semester before DRC/SRC is mandatory to review the progress of such research scholar.

These research scholars will be allowed to do pre-approved certified MOOCs towards 15 credits with the approval of Senate. Examination will be conducted for such certified courses to award grades, by the Department/School. They also need to pass the certified courses of (i) **Research Methodology** and (ii) **Research & Publication Ethics.**

R 8.5 Maximum Duration for Coursework

The coursework is required to be completed within 12 months of initial registration or start of the classes in the ensuing semester whichever is later. Maximum 6-months extension will be provided by the office of the Dean (Academic) on recommendation of the respective DRC/SRC. The course work must be completed before the comprehensive examination.

R 8.6 Punitive Action on not passing Coursework in maximum time period

The research scholar is required to pass coursework within a maximum period of 18 months of the initial registration or start of the 1st semester whichever is later, failing which research scholar's registration in Ph.D. programme will get cancelled automatically. The Academic section will issue office order in this regard.

R-9 EVALUATION OF COMPREHENSIVE EXAMINATION

R-9.1 Research Plan and Comprehensive Examination

Every research scholar is required to submit the research plan proposal which should include a brief account of the related work already reported in the literature, clearly spelt out investigation/work which the research scholar intends to carry out establishing the need of the same. Subsequently, the research work should be carried out in accordance with the approved research plan. Any change in research plan can be indicated by a research scholar in semester progress reports.

The following procedure is followed for conducting the comprehensive evaluation of the Ph.D. research scholars.

 (a) Every research scholar is required to take a comprehensive examination, which will test research scholar's readiness in the broad field of research, academic preparation, and potential to carry out the research. The comprehensive examination shall be based on a power point presentation before DRC/SRC.

 (b) Every research scholar must submit the research plan proposal and pass the comprehensive examination within 12-18 months of the initial registration.

 (c) The research scholar can apply for a comprehensive examination only after passing coursework requirements.

 (d) The research scholar is required to apply at least two weeks in advance for a comprehensive examination through respective supervisor(s).

R-9.2 Improvement of Research Plan and Re-evaluation

In case the research plan is not approved by the DRC/SRC, the research scholar will have to improve the research plan as per the suggestions of the DRC/SRC and get it re-evaluated.

R-9.3 Punitive Action for not passing Comprehensive Examination in time

If due to compelling adverse circumstances (as considered so by the DRC/SRC), the research scholar is not able to submit the research plan proposal and appear in the comprehensive examination within 12-18 months of the initial registration, or the research scholar is not able to pass the comprehensive examination within this period, the research scholar, on request, can be granted an extension of six months on the recommendation of the DRC/SRC. During this extension period, the research scholar can be registered provisionally only (the normal semester fees, however, will have to be paid), and minimum registration period requirement will automatically get extended by six months. Further, if the research scholar receives scholarship, the scholarship for these six months will be stopped. Only one such chance can be allowed to the research scholar. If the research scholar fails to qualify the comprehensive examination even after getting extension of six months, the research scholar's registration will be recommended for cancellation by the concerned DRC/SRC.

R-9.4 Number of Attempts and Maximum Duration for Comprehensive Examination

A research scholar will be allowed a maximum of two attempts to pass the comprehensive examination within maximum duration of 24 months of the initial registration, failing which the research scholar's registration will be recommended for cancellation by the concerned DRC/SRC.

R-10 PERFORMANCE MONITORING

R-10.1 Semester Progress Report

The progress of the research work of the research scholar will be monitored by the respective supervisor(s). For this purpose, at the end of each semester, the research scholar is required to submit the semester progress report to the respective supervisor(s).
The progress report should cover: -
(i) the summary of the work done before the start of the semester under consideration
(ii) the goals set for the semester under consideration semester,
(iii) the methodology used in achieving the goals, and
(iv) the extent of the fulfilment of the goals.

The supervisor(s) shall record the comments and the result of progress report evaluation as satisfactory/unsatisfactory. After recording progress report evaluation result, the supervisor(s) shall forward the progress report to Chairperson, DRC/SRC. The progress shall then be evaluated by the DRC/SRC and the result of evaluation recorded as satisfactory/unsatisfactory on the registration form of the research scholar for the subsequent semester. The registration form shall be forwarded by the Chairperson, DRC/SRC to the Dean (Academic).
The part time research scholar must submit the progress report to respective supervisor(s) personally and always remain in contact with respective supervisor(s) for necessary discussions related to research work/progress report.

The research scholars must submit semester progress reports by 30th June for even semester and 31st December for odd Semester in the office of the respective Department/School with the comments and signatures of the Supervisor(s) thereon.

R-10.2 Collection & Evaluation of Progress Report and Sending to Academic Section

The Chairperson DRC/SRC will coordinate, every semester, the collection of progress reports written and signed by the research scholars and forwarded by the supervisor(s) with remarks of all the supervisor(s) duly recorded as satisfactory/unsatisfactory. The progress of all the research scholars shall

then be evaluated by the DRC / SRC and the result of evaluation recorded as satisfactory/unsatisfactory. The Chairperson DRC/SRC will also ensure that the semester progress reports of all the research scholars of the Department/School reach the office of the Dean (Academic) by 31st July for even semester and 31st January for odd semester. The Chairperson DRC/SRC shall also intimate the office of the Dean (Academic) about those research scholars who fail to submit their semester progress reports every semester.

R-10.3 Provisional Registration & Discontinuation of Scholarship

If due to compelling adverse circumstances (as considered so by the DRC/SRC), a research scholar is not able to submit the progress report by the stipulated date, or the progress of the research scholar is adjudged by the DRC/SRC as unsatisfactory, the Research Scholar, on request, can be allowed an additional chance for the same. The research scholar is expected to improve the research work and submit the progress report again at the close of the following semester (after six months). During this semester, the research scholar can be registered provisionally only (the normal semester fees, however, will have to be paid), and the minimum registration period requirement will automatically get extended by six months. Further, if the research scholar receives scholarship, the scholarship for these six months will be stopped.

R 10.4 Unsatisfactory Progress of the Ph.D. Programme

If, even on having been granted extension, the research scholar does not submit the progress report within the stipulated time or on resubmission also, the progress is adjudged as unsatisfactory; the registration shall be recommended for cancellation by the respective DRC/SRC.
Only one such chance can be granted to the research scholar during the entire Ph.D. programme.

R-10.5 Reporting of Punitive Action

The cases where some punitive action is taken will be reported to the Director by the DRC/SRC through the office of the Dean (Acad.)

R-11 SEMINAR / SYNOPSIS / PANEL OF EXAMINERS

R-11.1 Pre-synopsis Seminar

(a) A research scholar will be allowed to deliver the pre-synopsis seminar only after getting at least a CGPA of 7.0/10.0 in coursework and after publishing /getting acceptance of at least two research papers out of Ph.D. research work in non-paid SCI/SCIE/Scopus indexed Journals. On the research scholar's request for pre-synopsis seminar, the DRC/ SRC shall check the journal publications of the research scholar and if found satisfactory, the research scholar will be allowed to deliver the pre-synopsis seminar. The research scholar must request and submit the proposal to the HoD/School Coordinator well in time, at least 15 days in advance, through respective supervisor(s), for pre-synopsis seminar.

(b) The schedule of the pre-synopsis seminar shall be notified well in time, at least three days in advance, making it convenient for the interested to attend it.

R-11.2 Synopsis

The research scholar will submit the synopsis only after incorporating the suggestions, if any, given by DRC/SRC during the pre-synopsis seminar. The synopsis should precisely reflect all aspects of the research work to be included in the thesis.
(a) The research scholars shall submit two hard copies and a soft copy of the synopsis in the same format as specified for the thesis to the Chairperson, DRC/SRC. The DRC/SRC will examine the

synopsis, and the Chairperson, DRC/SRC shall forward the synopsis with its recommendations to the Dean (Academic) along with all prescribed documents.

(b) The synopsis should be submitted normally within 2 months after the presentation of the pre-synopsis seminar. In case the synopsis is not submitted in the specified period, the research scholar may be asked to present the pre-synopsis seminar afresh again.

(c) The research scholar can submit the thesis only after a gap of at least one month after submission of the synopsis. However, under exceptional cases, this gap of one month can be relaxed by the Director on the recommendations of DRC/SRC.

(d) The research scholar shall be required to submit the thesis within 8 months of the submission of synopsis. However, in case a research scholar fails to submit the thesis within the stipulated time of 8 months and has suitable justification for the same, the Director may, on recommendations of the DRC/SRC and on individual merits of each case, grant extension of maximum upto two months, i.e., the research scholar may be allowed to submit the thesis within a period not exceeding 10 months from the date of the submission of the synopsis. However, the thesis should be submitted within the prescribed maximum time limit as per clause R 6.2.

R-11.3 Panel of Examiners

A panel of at least ten external examiners, including foreign examiners, and the authors of the recent papers in the references cited by the research scholar in the area of Ph.D. research work would be suggested to the DRC/SRC by the Supervisor (s). The DRC/SRC will consider the suggested panel and finally recommend it to the office of Dean (Academic). The panel of ten external examiners, should include five Professors/Associate Professors in Academic Institutes or equivalent from outside India (preferably from developed countries) and remaining five with same cadre from India, preferably from IISc/IITs/NITs/IIMs/IISERs. The recommended panel will be considered and approved/modified by the Director.

R-12 BOARD OF EXAMINERS

On receipt of the synopsis of the thesis, the Director will appoint a Board of Examiners for each research scholar from the list approved by the DRC/SRC. The Board of examiners will consist of two external examiners, one out of which would be from India, and the other from abroad. These external examiners shall be chosen normally from the panel of examiners recommended by the DRC/ SRC as aforesaid. A person working in the same organization(s) / institute(s) where the research scholar is employed cannot, however, be appointed as External Examiner for that research scholar.

R-13 THESIS SUBMISSION

R-13.1 Thesis Preparation Guidelines

The research scholar will submit a soft copy of the thesis in PDF format on CD, and two spiral bound copies, typed in English, one and a half spaced, printed in Times New Roman 12 pt. or Arial 11 pt. on both sides of A-4 size papers. The margins on the right page shall be 1.25" –left, 1" –right, 1" –top and 1" –bottom and the margins on the left page shall be 1.25" –right, 1" –left, 1" –top and 1" –bottom. The thesis shall be submitted along with the examination fee and all prescribed documents.

R-13.2 Paper Publication Requirement and Innovative Work in Thesis
The thesis shall contain a critical account of the research carried out by the research scholar. It should be characterized by discovery of facts or fresh approach towards interpretation of facts and theories or significant contribution to knowledge or development or a combination of these. It should bear evidence of the research scholar's capacity for analysis and judgement as well as the ability to carry out independent investigation, design or development.

No part of the thesis or supplementary published work should have been submitted for the award of any other degree or diploma. The research scholar can submit thesis only on having published /acceptance of at least two research papers out of Ph.D. research work in non-paid peer reviewed SCI/SCIE/Scopus Journals.

Thesis should be submitted along with plagiarism report as per the following guidelines:

Guidelines for checking Plagiarism through "Turnitin" Web Tool:

1. The similarity Index (SI) < 20% with
   (a) Source exclusion threshold set at 8 words
2. The following components will be excluded for generating the SI report:
   i. References / Bibliographic Materials
   ii. Quoted Materials
   iii. The text/contents prior to the first chapter, that is, Title Page, Acknowledgements, Declaration, Certificates, Table of Contents, List of Figures, List of Tables, List of Symbols & Abbreviations, and abstract.
3. Author's own published articles will be excluded from the SI report.

R-13.3 Time Period Requirement for Submission of Thesis

The research scholar can submit thesis within the time period as stipulated in regulations provided that the research scholar has completed the minimum period of registration as specified under clause R 6.2.

R-14 THESIS EVALUATION

All correspondence/notifications in regard to thesis evaluation and viva-voce examination of the research scholar; except where stated otherwise, shall be done by the office of the Dean (Academic). Except for the correspondence with the research scholar or general circulars/notifications, the correspondence shall be confidential.

R-14.1 Assessment Report and Recommendations

Each external examiner will be requested to submit a detailed assessment report and recommendations within six weeks of the date of receiving the thesis.

i) The examiners will examine the thesis individually with a view to judge whether the thesis is a piece of research work characterized by:

  a) The discovery of facts, or
  b) A fresh approach towards interpretation and application of facts or theories, or
  c) A distinct advancement in technology.

ii) The examiners will give opinion about the research scholar's capacity for critical examination and sound judgement. The examiners will submit the report on the prescribed form, sent along with the thesis, clearly recommending that:

  a) The thesis is accepted as it is for the award of the Ph.D. degree.
  b) Thesis is accepted with minor revisions to be incorporated in the thesis and are to be verified at the time of Viva-Voce examination by the Examination Committee.
  c) The research scholar be asked to resubmit the thesis in the revised form.
  d) The thesis be rejected.

R-14.2 Appointment of Alternate Examiner

In the event of the thesis report not being received from an examiner within a period of three months from the date of dispatch, the Director may approve an alternate examiner in his/her place for evaluating the thesis from the approved list of examiners. Before corresponding with the alternate examiner, the original examiner must be informed of the cancellation of this appointment, stating the reason therein.

R-14.3 Examiners' Evaluation and Recommendations

(a) If both the examiners recommend acceptance/rejection; the thesis be accepted/rejected, respectively.

(b) If one examiner recommends acceptance and other rejection, the thesis will be sent to the third examiner. If the third examiner recommends acceptance /rejection, the thesis will be accepted / rejected, respectively. If the third examiner recommends revision, the research scholar shall resubmit the revised thesis. The revised thesis will be sent to the same examiner who has recommended revision of the thesis. Only if at least two examiners recommend the acceptance,

the thesis will be accepted, else rejected.

(c) If one examiner recommends acceptance and other recommends major revision, the research scholar shall resubmit the revised thesis. The revised thesis will be sent to the same examiner who has recommended revision of the thesis.

(d) If both the examiners recommend major revision, then a third examiner will be appointed and the revised thesis will be sent to all three examiners. If at least two examiners recommend acceptance, the thesis will be accepted, else **rejected.**

(e) In all other cases the thesis will be considered as rejected.

Any doubt arising out of the procedure laid down above shall be referred to the Director for consideration.

R-15 RESUBMISSION OF THESIS

When a thesis is to be revised and resubmitted, the research scholar should be informed about the comments of the examiners. The revised thesis is to be submitted within one year through DRC/SRC of the respective Department/School.

The revised version of the thesis will be sent to the same examiner who has recommended revision of the thesis for his/her fresh recommendations.

R-16 VIVA-VOCE EXAMINATION

R-16.1 Permission for Viva-Voce Examination

The thesis examination reports, once received from the examiners, are to be put up to the Director by the office of Dean (Academic) for decision. The Director, on the basis of the reports will decide whether the research scholar should be allowed to appear in the viva-voce examination or not. The Director's decision on the thesis reports shall be communicated to the research scholar through Chairperson of the concerned DRC/SRC. The Chairperson DRC/SRC will form the Examination Committee for the viva-voce examination. The viva-voce examination shall be open to be attended by members of the DRC/SRC, all faculty members of the Department/School, other research scholars and all interested experts/researchers of the Institute.

The viva-voce examination can also be conducted on Skype or similar online tools after seeking prior approval of the Director.

R-16.2 Open Defence of Viva-Voce Examination

On having been allowed to appear in the viva-voce examination, the research scholar is to defend the thesis orally before the Examination Committee comprising the supervisor, one DRC/SRC nominee and one Indian external examiner. The Chairperson DRC/SRC will coordinate with all the examiners and the research scholar and fix a date for holding the viva-voce examination. The questions/queries communicated by the thesis examiners in their reports shall be intimated to the candidate through respective supervisor at least one week before the date of conduct of the viva -voce examination. The schedule of the viva-voce examination shall be adequately notified so as to enable interested staff members and students to attend it.

A notice in respect of the viva-voce examination will be issued at least one week in advance and the same may be uploaded on the Institute website for wide publicity. The notice will also be circulated among all the Departments/Schools. The research scholar will publicly defend viva-voce examination.

R-16.3 Appointment of Alternate Examiner for Viva-Voce Examinations

In case of non-availability of the Indian external examiner for conducting the viva-voce examination, the Director may appoint an alternate examiner to conduct the viva-voce examination from the existing panel. If the need be, the DRC/SRC may suggest a fresh panel of examiners.

R-16.4 Viva-Voce Examination Process

(i) The viva-voce examiner shall be provided with the reports of the thesis examiners before the viva-voce examination.

(ii) The Ph.D. thesis supervisor shall assist the Chairperson DRC/SRC in arranging the viva-voce examination of the research scholar as early as possible.

(iii) In case of the inability of the research supervisor to have the viva-voce examination conducted due to any reason whatsoever, the Director may appoint another examiner, in place of research supervisor, to conduct the viva-voce examination, from amongst the faculty of the Department/School concerned who belongs to the particular field in consultation with Chairperson DRC/SRC. In such cases also, the Ph.D. work will be deemed to have been carried out under the guidance of the supervisor (s) only.

(iv) After the viva-voce examination, the examiners will prepare a detailed joint report giving one of the following three recommendations.

    (a)   recommended for the award of the degree

    (b)   the thesis be resubmitted after a minimum period of six months incorporating the suggestions of the examiners.

    (c)   not recommended for the award of the degree

The report shall be sent by the Chairperson DRC/SRC in a confidential cover to the Dean (Academic).

(v) Any other matter not explicitly provided herein or of an exceptional nature, may be referred to the Director for his/her decision.

R-17 AWARD OF THE Ph.D. DEGREE

On the completion of all stages of the examination, a Doctoral Committee, consisting of the Director, the Dean (Academic) and the Chairperson of the DRC/SRC concerned, shall examine the reports of all the examiners (thesis and viva-voce) and decide as under: -

(a) that the degree be awarded;

(b) that the degree shall not be awarded.

    i) The thesis is to be resubmitted.

    ii) The thesis is rejected on the conclusion that the thesis is not genuinely the work of the research scholar.

For (b) (i) above, the Committee, if required, shall provide to the research scholar a list of all corrections and modifications to be made in the thesis, including suggestions made by the examiners during the thesis evaluation, and the result will be declared after the research scholar submits two copies of the corrected thesis certified by the internal examiner that the necessary corrections and modifications have been made.

R-18 INSTITUTE SCHOLARSHIP/FELLOWSHIP

R-18.1 Award of Scholarship/Fellowship & Contingency Grant

Those research scholars who are admitted on full-time basis are considered, on the recommendation of the respective DRC/SRC, for the award of Institute scholarship of the amount as decided by the Board of Governors and directed by the Government of India from time to time. For the award of Institute scholarship, the research scholar must not be in receipt of any financial aid from any other source for pursuing the Ph.D. research work and a certificate to the effect is to be submitted by the research scholar. The research scholars receiving fellowship amount will be designated as Junior Research Fellow (JRF) as per the directions of the MoE which is subject to change on directions of the competent authority from time to time.

In addition, the research scholars will be provided a contingency grant in accordance with the rules of the Institute. It is to be noted that admission to the programmes and award of scholarship are not linked. Admission to a programme does not guarantee the award of scholarship.

R-18.2 Tenure of Scholarship/Fellowship & Award of Senior Research Fellow (SRF)

The scholarship/fellowship for the tenure of initial two years, from the date of joining the respective Department/School or start of the classes of 1st semester, is equivalent to JRF. The elevation to SRF

after two years will be conducted as follows:

The Chairman of DRC/SRC will propose an External Review Committee (ERC) in consultation with the respective supervisor(s), to Dean (R&C) for securing approval of the Director, comprising of the following:

1) Chairperson DRC/SRC or his/her nominee
2) One external subject expert from outside the Institute preferably from NITs/IITs/IISc./IIMs/ISERs.
3) Supervisor/Co-supervisor of the research scholar as Member Secretary

An honorarium of Rs. 5000/- will be paid to the external subject expert along with TA/DA. However, the external subject expert may join the meeting through online mode.

The ERC will judge research work of the research scholar and submit a report. If the research work is found satisfactory, the research scholar will be designated as SRF and the research scholar will be entitled for enhanced scholarship/fellowship for the remaining period of 3 years under SRF scheme subject to satisfactory performance in the progress reports and fulfilment of any other condition of the Institute/fellowship awarding agency.

In case the work for the two years is not found satisfactory, the research scholar will continue getting scholarship/fellowship under JRF scheme subject to satisfactory performance in the progress reports and fulfilment of any other condition of the Institute/fellowship awarding agency.

Thus, the total period of fellowship (JRF and SRF) is five years and there is no further provision of extension in this regard.

R 18.3 Duties of Research Scholar Receiving Scholarship/Fellowship

The research scholar receiving the scholarship/fellowship, with the consent of the HoD/Coordinator of School, will assist in the academic work including conduct of tutorial classes and lab work for 8-hours/week.

R-19 LEAVE AND ATTENDANCE

All full-time research scholars (with or without scholarship) are required to mark daily attendance in the attendance register maintained by the Department/School. The HoD/School Coordinator shall also maintain a proper leave account of each such research scholar. The leave of the research scholar should be recommended by respective Supervisor(s) and sanctioned by the HoD/School Coordinator.

The full-time research scholar is entitled to avail leave as per Leave and Attendance Rules formulated and amended from time to time by the Senate. Presently these are as under:

(i) The full-time research scholar may avail 8 casual leaves and 2 leaves in lieu of Restricted Holidays. The research scholar will not be entitled to mid-semester breaks/vacations (summer and winter). Any absence from the Institute without sanctioned leave may lead to loss of fellowship for the period of absence.

(ii) The full-time research scholar may be allowed to proceed on long duty leave (maximum up to one year) to some organization, if required, for research progress. However, it should be with the due approval of competent authority.

(iii) The full-time research scholar may avail the duty leave for attending one conference/workshop/academic event per semester with the approval of the Dean (R&C).

(iv) The full-time research scholars will be entitled for maximum non-commuting 10 Medical leave per year as approved by the Senate on medical grounds on the recommendations of the SMO/MO of the Institute Health Centre.

(v) The women research scholars will be eligible for Maternity Leave as per MoE rules. The minimum and maximum registration period will be extended by the leave period only subject to a maximum of six months. However, the Scholarship/Fellowship may be given for a maximum period of Five years only (including period of maternity leave) to the full-time women research scholars receiving any kind of scholarship/fellowship, subject to fulfilment of Ph.D. Ordinance, from the date of initial registration.

R-20 CANCELLATION OF REGISTRATION

Registration of a research scholar can be cancelled in any one of the following eventualities, with due

approval of the Director.

(i) If a full-time research scholar absents for a continuous period of four weeks without prior intimation/ sanction of leave.

(ii) If a research scholar resigns from the Ph.D. programme.

(iii) If a research scholar fails to renew his/her registration every semester within the registration period as notified.

(iv) If a research scholar does not submit semester progress report by the stipulated date or the progress of his/her research work is found unsatisfactory.

(v) If a research scholar does not clear the comprehensive examination within the stipulated period.

(vi) If a research scholar is found involved in an act of misconduct and/or indiscipline and the competent authority has recommended termination. For all purposes, the conduct/ discipline rules applicable to B.Tech./M.Tech. Students of the Institute shall apply to Ph.D. research scholars also.

(vii) If at any stage, information furnished by the research scholar in his/her application is found false or incorrect.

R-21 GENERAL

R-21.1 Authority of Senate and Recommendation to the Senate
Notwithstanding anything contained in these Ordinances & Regulations, all categories shall be governed by the rules and procedures framed by the Senate, and in force from time to time.

R-21.2 Doubt and Disputes of Regulations
Any doubt or dispute about the interpretation of these Ordinances and Regulations shall be referred to the Director whose decision shall be final.

R-21.3 Amendments in the Regulations by Senate
Eligibility for admission to Ph.D. programmes in different disciplines may, from time to time, be reviewed, approved by the Senate, and implemented

R-21.4 Resolution of the Difficulties by Director binding on all the stakeholders
The Director as the Chairman, Senate may refer the issue to the Senate for interpretation of the Regulations, if deems it necessary.

O-04 EXCEPTIONS AND ISSUES

(i) All issues which need further interpretation or not covered under regulations defined will be considered by the Director on the recommendations of the following committee.

(1) Dean (Academic)	Chairperson
(2) Dean (R&C)	Member
(3) Head/Coordinator of the concerned Department/School	Member
(4) Ph.D. supervisor concerned	Member

(ii) Recommendations of the committee will be placed before the Director for consideration and approval.

(iii) All such approvals will be reported to the Senate for ratification and inclusion of the same in the Ph.D. regulations.

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