

VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE
(VJTI)
MATUNGA, MUMBAI 400 019

(Autonomous Institute affiliated to University of Mumbai)



Manual of Rules

For

Doctor of Philosophy (Technology) Programmes

Implemented from the batch admitted in Academic Year 2015-16

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For

Doctor of Philosophy
(Technology) Programmes

in

- 901 Civil Engineering
- 902 Mechanical Engineering
- 903 Electrical Engineering
- 904 Production Engineering
- 905 Textile Technology
- 906 Electronics Engineering
- 907 Computer Engineering

Implemented from the batch admitted in Academic Year 2015-16

INTRODUCTION

This manual sets out the rules, procedures and requirements of the Doctor of Philosophy (Technology) programmes that fall under the purview of Academic Council of VJTI.

The rules and regulations described in this manual are applicable to the programmes listed below:

- 901 Civil Engineering
- 902 Mechanical Engineering
- 903 Electrical Engineering
- 904 Production Engineering
- 905 Textile Technology
- 906 Electronics Engineering
- 907 Computer Engineering

1 Eligibility for Admission

- 1.1 A candidate shall be considered eligible for registration for the degree of Ph.D. provided that the candidate satisfies **one** of the following:
- i) Candidate must have obtained Bachelor's degree and Master's degree in technology or engineering with minimum 60% marks (*55% marks in case of reserved category*) in either of the two or a CPI/CGPA of 6.75 or above on a 10 point scale (*CPI/CGPA of 6.25 or above on a 10 point scale in case of reserved category*)
 - ii) Candidate who is currently an approved teacher having approved full time teaching experience of at least FIVE years.
 - iii) A candidate from a research organization or industry is considered eligible for registration for the degree of Ph.D. provided that the candidate satisfies the following:
 - a) Having obtained Bachelor's degree and Master's degree in technology or engineering.
 - b) Having THREE years technical/ industrial experience in the field of interest.
 - c) Having visibility/acceptability of his/her work by way of paper presentations in reputed conferences, peer reviewed journals and/or research project completion in the field of interest.
 - d) Having sponsorship from the parent organization. (Candidate shall submit a sponsorship letter from the parent organization in the prescribed format)

Such Candidates will preferably be selected for a joint research project from sponsoring organization. Infrastructural and financial support will come from the sponsoring organization (with Memorandum of Understanding between the sponsoring organization and VJTI). Supervision will be jointly done by a faculty from the institute and a person qualified to supervise Ph.D. work from the sponsoring research organization/industry.

2 Selection process

- 2.1 The candidate has to undergo a written test as per the UGC norms for Ph. D. program in the concerned department.
- 2.2 Department shall provide candidates with the details of research areas in the department.

- 2.3 The eligible candidates will have to undergo an interview by a panel formed for the purpose, including Head of the department and all eligible research guides in the department.
- 2.4 The final recommendations of the department will be forwarded through respective Departmental Academic Committee (DAC) to Dean (Academic Programmes) for final approval of Director / Chairman Academic Council.
- 2.5 After approval process, the candidate will be informed regarding selection and shall be offered registration to Ph. D. program of the Institute after payment of necessary fees within stipulated time. If candidate fails to accept the offer of admission within a specified time limit, the offer of registration shall stand cancelled and the candidate will have no claim afterwards.
- 2.6 Candidate has to prepare an outline of the proposed research work in consultation with the supervisor/s and submit the same to respective DAC within a maximum period of nine months from the date of registration. Completion of course work of 9 credits with a CPI of 6.0 & above and approval of the proposal by the PhD affairs committee is must for further continuation of the PhD registration.

3 Exemption from the Written Test

- 3.1 A candidate who has appeared for the PhD entrance test (PET) of University of Mumbai and has **valid PET score** is exempted from the written examination for Ph.D., conducted by the departments.
- 3.2 A candidate with valid GATE score in the relevant field is exempted from the written examination for PhD, conducted by the department.
- 3.3 Approved teachers appointed in the University of Mumbai or its affiliated colleges having not less than Five years, full time continuous teaching experience after the date of First approval of appointment shall be exempted from the written examination for PhD, conducted by the department. The copy of approval letter has to be attached as proof along with application.

4 Categories of Ph. D. candidates

The Institute admits Ph. D. candidates under following categories:

4.1 Full-time research scholar

Candidate is required to be available in the institute full time for period of atleast three years. There is possibility of Research / Teaching assistantship available to the candidate from institute funds or research projects. Candidates sponsored by their parent organizations cannot avail of Research / Teaching assistantship. Sponsored candidates have to produce sponsorship letter in given format along with application form.

4.2 Part-time research scholar

Candidate is required to complete at least two semester of residential requirement at the institute. Sponsored candidates have to produce sponsorship letter in given format along with application form. Institute internal candidates have to apply as part time research scholars only. Internal candidates have to work under VJTI supervisor and/or external supervisor from IIT or other research organizations (optional with recommendation from DAC).

- 5 Course credit requirements
- 5.1 All research scholars registering for PhD programme are required to acquire minimum of 12 credits from amongst M Tech level courses (04 theory courses including Computational Methods course and Research Methodology course) within first two semesters after registration.
- 5.2 The courses on computational methods and research methodology are compulsory for all the research scholars admitted in the Institute.
- 5.3 The remaining courses may also be taken from parent department of the research scholar or other departments of VJTI or from IIT or other reputed institutes, with whom VJTI has MOU, on the advice of the supervisor(s), recommendation of respective DAC and approval of Dean (Academic Programs). Internal research scholars must compulsorily register for these courses at IIT Bombay.
- 5.4 Every registered research scholar will have to deliver a seminar by studying at least five quality research papers in the chosen field of interest as suggested by the supervisor, which will be evaluated by a committee of three faculty members who are research supervisors, and satisfactory performance is must for further continuance of registration.
- 5.5 The research scholar should acquire a minimum CPI of 6.0 in the registered courses for further continuation in the PhD programme. The research scholar who fails to satisfy the requirement of minimum CPI of 6.0 within first year of admission has to discontinue the programme.

6 Evaluation and assessment

- 6.1 The DAC will form at least a three member Research Progress Committee (RPC) for every research scholar. RPC shall consist of members, who are conversant with the field of research and shall include;
- Supervisor/s,
 - Internal faculty of VJTI having knowledge of the research area
 - External member from IIT or other institutes / organizations of repute

The names of RPC members along with the courses to be completed by the research scholar shall be communicated to PAC through Dean (AP) within nine months of provisional admission to the programme.

- 6.2 The research scholar has to submit progress report through Supervisor, to the RPC at the end of every year.
- 6.3 At the end of every year, the research scholar will present his research work in an Annual Progress Seminar (APS) to the RPC, postgraduate students and faculty. Such seminars are required to be given every year until the submission of synopsis. Further, the research scholar has to mandatorily participate in the annual VJTI Ph.D. Colloquium and present his research in form of a poster presentation, to the satisfaction of evaluators.
- 6.4 The RPC will monitor the progress of research work of the candidate until completion of the programme.
- 6.5 The continuation of registration of scholar is subject to satisfactory progress and recommendation of respective RPC on annual basis.
- 6.6 The delay in submission of progress report and presentation may lead to discontinuation of Institute assistantship or/and cancellation of registration for the program.
- 6.7 The research scholar has to give atleast three Annual Progress Seminars. The RPC, in the third or any subsequent APS will decide whether the scholar has completed research

- work to an extent that his pre-synopsis seminar can be held and note its recommendations in the APS report.
- 6.8 The research scholar during the pre-synopsis seminar has to present her / his complete research work and include all suggestions of the RPC in the final thesis. The final thesis has to be submitted within three months of the pre-synopsis seminar.
- 6.9 The thesis submitted by the research scholar will be evaluated by three external referees. At least two referees have to recommend acceptance of thesis with or without corrections / modifications. Finally the research scholar has to undergo a comprehensive viva voce examination which has to be openly defended. The committee of examiners for the open defence shall consist of one of the external referees, the supervisor and the Head of Department / Professor, who will work as Chairman of the committee. After successful defence of the comprehensive viva voce, the name of the research scholar shall be communicated to the University of Mumbai for award of Doctor of Philosophy (Technology) degree in the concerned discipline of engineering.
- 6.10 If two of the referees recommend not acceptance of thesis, the RPC will meet to review the reports submitted by the referees and in tune with the reports, instruct the research scholar to modify the thesis in line with the reports of the referees. The RPC may instruct the research scholar to carry out further work also. The modified thesis is resubmitted to the referees. If the two of the referees still recommend non acceptance of thesis, the candidature of the research scholar will be terminated.

7 Award of degree

- 7.1 All full time research scholars have to work for a minimum period of three calendar years from the date of registration before submission of thesis, while all part time research scholars, including internal research scholars, have to work for a minimum period of four calendar years from the date of registration before submission of thesis.
- 7.2 The validity of registration of the research scholar is six calendar years.
- 7.3 A research scholar will not be permitted to submit a thesis, a work for which a degree or diploma or any other academic award has been conferred on the candidate by any university / academic body.
- 7.4 A research scholar will be permitted to submit a thesis, only if the research scholar has to his credit at least one journal paper in a journal of repute having reasonable impact factor and at least one conference paper in a conference organized by IITs / NITs / reputed engineering colleges / reputed professional societies.