

Dr. M.G.R.
Educational and Research Institute
University
(Declared as Deemed to be University u/s.3 of UGC Act, 1956)
Maduravoyal, Chennai – 600095
An ISO 9001: 2008 certified Institution



**M.S. (by research) & Ph.D.
Regulations 2016**

April – 2016

**Dr. M.G.R. Educational and Research Institute
Chennai – 600 095**

Regulations for M.S.(by research) and Ph.D. Programmes

1	Definitions and Nomenclature	1
2	Eligibility Criteria / Formalities	2
3	Ph.D. Programme	4
4	Mode of Selection of Candidates for Research Degree	7
5	Admission	8
6	Place of Research	8
7	Provisional Registration and Confirmation	9
8	Duration of the Programme	11
9	Change of Category	11
10	Break of Study	12
11	Doctoral Committee	12
12	Progress Reports	14
13	Cancellation of Registration	16
14	Recognition of Supervisor	18
15	Change of Supervisor	19
16	Submission of Synopsis	20
17	Submission of Thesis	21
18	Re-registration	24
19	Adjudication of Ph.D. Thesis	24
20	Viva-voce Examination	27
21	Format of the Degree Certificate	30
22	Publication of the Thesis	30
23	Act of Plagiarism	31
24	Transitory Provision	31
25	Power to Modify	31

APPENDICES

Format for M.S. / Ph.D., Synopsis		
Appendix I	A typical specimen of <i>Cover Page and Title Page</i>	32
Appendix II	A typical specimen of <i>Bonafide Certificate</i>	33
Appendix III	A typical specimen of <i>Declaration by the Candidate.</i>	34
Appendix IV	A typical specimen of <i>References.</i>	35
Appendix V	A typical specimen of <i>List of Publications.</i>	36
Appendix VI	Functions of the Research Doctoral Committee.	37
Appendix VII	Format for the <i>Progress report of the MS / Ph.D. Scholars.</i>	40
Appendix VIII	Format for <i>Inter-Disciplinary Research Proposal</i>	43
Appendix IX	<i>Suggestions and Guidelines for the Preparations of Thesis.</i>	45
Format for M.S. / Ph.D. Thesis.		
Appendix X	A typical specimen of <i>Cover Page and Title Page for Thesis</i>	55
Appendix XI	A typical specimen of <i>Declaration by the Candidate</i>	56
Appendix XII	A typical specimen of <i>Bonafide Certificate</i>	57
Appendix XIII	A typical specimen of <i>Table of Contents for the Thesis.</i>	58
Appendix XIV	A typical specimen of <i>Abbreviations and Symbols for the Thesis</i>	59

**Degree of Doctor of Philosophy (Ph.D.)
and
Master of Science (M.S.) By research**

REGULATIONS

1.0 The following are the definitions and nomenclature, in the regulations unless otherwise specifically stated :

1.1 DEFINITIONS AND NOMENCLATURE

- i. University means “Dr. M.G.R. Educational and Research Institute”, at Maduravoyal, Chennai - 600 095.
- ii. The Research Board means the Board constituted by the Vice Chancellor of the University to monitor the research activity of the scholars and the University
- iii. Supervisor means a Faculty Member working in this University or in a recognized laboratory and recognized by the University to supervise the research scholars
- iv. “Joint Supervisor” or Co-Supervisor means a recognized Supervisor to supervise the Scholar in an area of research which required more than one expert and also to supervise in the absence or long leave of the regular Supervisor.
- v. Programme means Master’s or Doctoral programme respectively, leading to the award of M.S. or Ph.D. in Engineering / Technology / Science and Humanities / Dental Surgery / Medical and Allied Medical Sciences/ Management Studies, as available in the various Faculties of the University.
- vi. Head of the department means the Head of the department of the area of research
- vii. Doctoral Committee means, a committee constituted by the University, for each scholar, to monitor his / her research activities periodically leading respectively to M.S. or Ph.D. degrees. Number of Doctoral Committee members may be restricted to four and in the case of inter-disciplinary projects; an additional member could be inducted.
- viii. Course work means Theory/Practical (Laboratory) subjects that are prescribed by the Research / Doctoral Committee of the Scholar to undergo as a part of the research programme.

1.2 PREAMBLE

The degree of Master of Science (M.S. by research)/ Doctor of Philosophy (Ph.D.) is awarded to a candidate, who has submitted his / her new findings in a Thesis on the basis of original and independent research as per the regulations of this University. The Thesis should make a positive contribution to the advancement of knowledge which is approved / passed by a set of duly appointed Examiners as per the rules and regulations of this University, after completing all the requirements for the award of the said degree. *The thesis must be of publishable material in a Scopus rated journal or development of new equipment, device etc of industrial relevance.*

2.0 ELIGIBILITY CRITERIA / FORMALITIES

2.1 FOR ADMISSION

Specific Educational qualifications are given below, with a minimum of 55% or a 6.0 CGPA in the qualifying degree

Educational Qualifications

Sl. No.	Programme	Qualifications for Admission*
1	M.S. (by Research)	Bachelor's degree in Engineering & Technology /Architecture (or) M.Sc. in Science of any University/ Institute recognized by the UGC.
2	Ph.D. degree in Engineering & Technology	M.E/ M.Tech./ M.Sc. (Engg.) / M.C.A. / M.S (By Research) in the relevant branch, from a recognized University Institute
3	Ph.D. degree in Computer Applications	M.C.A / M. Phil. from a recognized University / Institute

4	Ph.D. degree in Humanities and Sciences	M.A/M.Sc./M.Com/ M. Pharm. / M.Phil. /M.S. (by Research) in the relevant branch from a recognized University / Institute
5	Ph.D. degree in Management Studies	MBA/Post Graduate diploma in Business Management (or) Administration awarded by Indian Institute of Management (IIM) or equivalent from a recognized University / Institute
6	Ph.D. degree in Dental Surgery	M.D.S. or equivalent from a recognized University / Institute
7	Ph.D. degree in Medicine	M.D / M.S., or equivalent from a recognized University / Institute
8	Ph.D. in Allied Health Sciences-Nursing Physiotherapy and Sports Medicine	Master's degree or equivalent from a recognized University or Institute in the Specialties

*Minimum marks required in the qualifying examination

- i. High Second Class with a Minimum of 55% marks (or) equivalent CGPA of 6.0
- ii.If the qualifying degree is MS the clause specifying the minimum marks does not apply.
- iii.Those who obtained their degrees from foreign countries should get equivalence certificate from Association of Indian Universities, New Delhi

2.2 SUPERVISOR FOR RESEARCH

Supervisors for M.S./Ph.D. scholars shall be University approved faculties of established educational / scientific organizations. Those intending to guide shall make a formal application in the format (which can be downloaded). Only after the University accepts them as Supervisor, can any Scholar seeking admission can have their applications processed.

2.3 FULL TIME Ph.D. PROGRAMME

Candidates who satisfy the eligibility condition in Sec. 2.1 are eligible to apply for Ph.D. Programme.

2.3.1. Candidates under full time shall do research work in the University and they should be present in the University during working hours and be available for Curricular, Co - curricular and all related activities. They should necessarily sign in the attendance register on all working days kept in the concerned department other than those days of approved leave.

2.3.2 If the candidates already have a valid score in GATE/CSIR-UGC-NET/SLET Examination, they become eligible for admission to the full time Ph.D. programme in the respective discipline (available in the University).

2.3.3 Such candidates who are not employed elsewhere but desirous of pursuing M.S. (by Research) / Ph.D. Full time shall enroll under this category,

2.4 PART-TIME M.S./Ph.D. PROGRAMME

The following categories of candidates are eligible to apply under part-time programme. The candidate should have a minimum of two years of professional experience after receiving his/her concerned degree, as prescribed in Sec. 2.1 before registration for the Ph.D. programme. Such candidates shall be:

i) Part time (Internal):

Candidates working in Dr. M.G.R. Educational and Research Institute shall be enrolled under this category.

(Download the Application from the website www.drmgrdu.ac.in)

3.0 Ph.D. PROGRAMME

This programme is offered in the following Faculties of this University in the respective Departments:

Faculty	Departments
Humanities & Sciences	English / Mathematics / Physics Chemistry / Bio-Technology
Social Justice and Empowerment	Disability Studies / Women Empowerment / Human Rights / Social Justice
Engineering & Technology	Civil Engineering / Mechanical Engineering / Electrical and Electronics / Engineering / Electronics and Communication Engineering/ Electronics and Instrumentation Engineering / Computer Science and Engineering / Information Technology / Chemical Engineering / Industrial Biotechnology
Architecture	Architecture
Computer Applications	Computer Applications
Management Studies	Management Studies
Dental Surgery	All Specialties in Dentistry
Medicine and Allied Health Sciences	All Specialties, Nursing, Physiotherapy and Sports Medicine

ii) Inter Institutional:

Candidates working in R&D Departments/National Laboratories/Units of Government/quasi Government (or) any other research laboratory, which are recognized by the University and sponsored by their respective employers.

In the case of all inter / institutional candidates; a MoU should exist between the organization and this University for the eligible candidate to apply/register for research at Dr. M.G.R. Educational and Research Institute.

iii) Candidates from Industry/ National laboratories:

They will be governed by the same rules as above in Sec.3.2 (ii). Part-Time candidates are expected to do research normally in their place of employment which should have necessary facilities to carry out the research in the chosen topic/area. However, there is a compulsory residential requirement of two semesters; namely, they shall be resident at this university either for undertaking the course work or for initiating the research work directly under the Supervisor/Co-Supervisor of this University. If the Supervisor is external to this University, the scholar should work under the Co-Supervisor, who is internal.

4.0 MODE OF SELECTION OF CANDIDATES FOR RESEARCH DEGREES

- 4.1.1 Candidates interested in doing research in this University should apply in the prescribed application form issued by the University/can be downloaded from the University website (www.drmgrdu.ac.in). Incomplete applications will not be attended to. Normally the University will accept applications for Research Degrees twice in a year (January and July)
- 4.1.2 Incomplete applications will be summarily rejected without any intimation to the candidates.
- 4.1.3 The applications will be processed by a committee to be constituted by the Dean (Research) and approved by the Vice Chancellor.
- 4.1.4 The committee will scrutinize the applications, conduct test and interview for all eligible candidates. Based on the performance in the test & interview the candidates shall be short listed. All short listed candidates would be intimated.
- 4.1.5 Entrance Examinations: There shall be a written entrance examination for all candidates except those who have passed the GATE /NET examinations and desirous of pursuing their M.S. (by Research) / Ph.D. Programmes. The pattern of examinations shall be posted on our website. For those qualifying in the written

entrance examination, a departmental evaluation committee shall review the applicants. Based on the performance in the test and interview, the candidates shall be short listed. All short listed candidates would be intimated. The minimum marks prescribed for admission to the M.S. (by Research) / Ph.D. Programmes shall be relative but not less than an aggregate of 50% in the tests.

5.0 ADMISSION

5.0 All provisionally selected candidates shall then meet Research / Doctoral Committee with a proposal of their broad area of research. Dean (Research) may also invite prospective research guides for the first Doctoral Meeting. At this point of time, the Research / Doctoral Committee shall recommend the courses to be credited by the candidate and approve the broad area of research and the prospective Research Supervisor.

5.1 The selected candidates can register provisionally for Ph.D. either in the semester commencing in January or in the semester commencing in July.

5.2 The date of Provisional Registration will be the date of joining the programme as informed, to the candidate in writing and through mail, through the respective Head of the department.

6.0 PLACE OF RESEARCH

The place(s) of research in respect of full-time/part-time programmes are as under:

6.1 Full-time Programme

6.1.1 The Full-time programme shall be undertaken in the concerned University Departments.

6.2 Part-time Programme

6.2.1 Only Internal Supervisors are allowed.

6.2.2 The facilities in Industrial Units / R&D Departments / Laboratories / Units of Government / Quasi Government / Recognized Research laboratories must be made available as part of the No Objection Certificate for such research scholars. The nature of research facilities must be specifically mentioned in the No Objection Certificate (in the format provided) Nature of Research facilities must necessarily find expression in the No Objection Certificate.

7.0 PROVISIONAL REGISTRATION AND CONFIRMATION

7.1 Course work: It is mandatory that, all those admitted to the M.S. (by Research) / Ph.D. programmes shall undergo course work to a minimum of 16 credits and 12 credits respectively for the M.S. / Ph.D. programmes as prescribed by the Research / Doctoral Committee. Such courses are designed at levels higher than the Master's level or advanced Master's level courses for Ph. D. candidates. Candidates may be allowed to credit regular courses given by institutions like IIT, Anna University, Madras University and the credits from such institutions can be transferred, if suitable, with the recommendation of the Doctoral Committee.

7.2 The Doctoral Committee of the Scholar will prescribe the syllabus for each theory paper for the course work, if such courses are not offered by the University and the institutions mentioned in Sec. 7.1

7.3 Candidates with M. Phil. Degrees in Humanities and Sciences are exempted from Research Methodology paper but, in lieu of this, they should take one elective paper related to their area of research. Research Methodology is otherwise compulsory for all candidates. The remaining subjects shall be selected as related to their research field as suggested by the Research / Doctoral Committee.

7.4 Seminar: In addition to the course work, a seminar on the proposed research work shall be a requirement and given at any time during the second semester of course work.

- 7.5 All the above as assigned by the Research/Doctoral committee constitute provisional registration for the research degree candidates. The course work and the seminar should be completed within one year of admission or during the time of residential requirement for external candidates. The Scholar shall obtain a CGPA of 6.0 in the course work in order to become eligible for confirmation of provisional registration. If the candidate fails to obtain the required score in the course work, the candidate shall redo the same course or undertake one more course relevant to the area of research.
- 7.6 Only courses suggested and approved by the Research/Doctoral Committee shall be taken into account for this requirement. Any other course/s passed already by the scholar prior to the provisional registration shall not be counted for the purpose.
- 7.7 No change in the course work prescribed shall be permitted without proper reason and approval of the Doctoral Committee.
- 7.8 If the scholar fails to complete the course work in the prescribed time along with the seminar, appropriate action including the cancellation of the registration shall be taken by the Dean (Research) on the advice of the Research / Doctoral Committee.
- 7.9 Confirmation of Registration: The provisional registration will be confirmed after the successful completion of their course work and the Seminar on the area / sub-area of proposed research work as had been recommended by the Doctoral Committee.

8.0 DURATION OF THE PROGRAMME

8.1 The duration for the submission of the Thesis is counted from the date of Provisional registration.

8.2 Duration of the programme

Sl No.	Programmes	Full-Time Minimum	Full-time Maxim	Part-Time Minim	Part-Time Maxim
1	Engineering and Technology/ Dental Surgery/Medical/ and Allied Para-Medical/Architecture Programmes	3 Years	6 Years	4 Years	7 Years
2	Humanities and Sciences, (M.A/ M.Sc./M. Pharm.)	3 Years	6 Years	4 Years	7 Years
3	Computer Applications and Management Studies (MCA/MBA)	3 Years	6 Years	4 Years	7 Years
4	Institutional Candidates	---	---	4 Years	7 Years
5	M.S. (by Research) Engineering Technology	2 Years	3 Years	3 Years	4 Years
6	M.S (by Research)- Humanities and Sciences, Computer Applications and Management Studies	2 Years	3 Years	3 Years	4 Years

9.0 CHANGE OF CATEGORY

9.1 A candidate is permitted to change his/her category from part- time to full-Time and vice-versa, with the recommendation of the Research / Doctoral Committee, by an official order from the Dean (Research). The minimum and maximum period will be calculated from the duration spent in the respective category and the remaining duration will be calculated proportionately.

9.2 The change of category is permissible only after the confirmation of the provisional registration.

9.3 The change of category shall be approved by the Dean (Research), subject to the submission of necessary documents, along with the minutes of the Doctoral Committee.

10.0 BREAK OF STUDY

This should be accounted by proper supporting evidences. If a candidate happens to leave our country for any reason, such period of absence should be informed and approved by the University. A scholar should however, remit the prescribed fees for such period.

In exceptional circumstances, if the Doctoral Committee recommends and the Research Board deems it fit, a maximum grace period of two years, six months at a time, beyond the normal maximum period of Six (6) years in the case of full time scholars and seven (7) years in the case of part time, may be granted by the Vice Chancellor. If a break of study in this University is affected for reasons of study/research abroad/in another Indian University, the period shall not be considered as break of study. In such cases however, penalty fees as prescribed from time to time shall be paid.

10.1 Request for such extension (six months at a time) shall be made to the Dean (Research), with the recommendation of the Doctoral committee, at least one month prior to the completion of the maximum period or expiry of the previous extension.

10.2 If the scholar fails to submit the Thesis within the extended period of two years, the registration shall be cancelled and his/her name be removed from the rolls of registration.

11.0 DOCTORAL COMMITTEE

There shall be a Doctoral Committee for every scholar to monitor the progress of research work, and shall consist of the following members:

Supervisor / Co-Supervisor (if any)
Head of the Department
External Expert (External to the University)
Internal Expert (within the University)
Dean (Research)

- 11.1 For every Scholar, the Supervisor shall furnish for the purpose of constituting the Doctoral Committee a panel of six experts with doctoral qualification in the field of proposed research:
- i) From the faculty members of the University
 - ii) Experts from R&D Departments of National Laboratories or any other research Laboratories / Universities Two members from the above will be recommended by the Head of the Department, as members (one within the University and one external expert preferably within the City / State). The same rule is applicable for the Research Committee for M.S. (by Research).
- 11.2 The Supervisor of the scholar shall be the Convener of the Research / Doctoral Committee
- 11.3 The Co-Supervisor, if applicable, shall also be a member of the Research / Doctoral Committee.
- 11.4 If a Research / Doctoral Committee member is away from his/her place of work for a long period, the Supervisor shall request for an alternate member from the panel of experts submitted as per Sec. 11.1.
- 11.5 The Supervisor has to inform the Dean (Research) and also the Head of the Department (Coordinator) about the Research / Doctoral Committee meeting at least 10 days in advance, so that the Head of the Department can coordinate with the concerned members to conduct a Research / Doctoral Committee meeting.
- 11.6 The Research / Doctoral Committee should meet necessarily twice in a year (once in six months)

11.7 The Research / Doctoral Committee meeting should be conducted in July and in February with prior approval of the dates from the Dean (Research).

11.8 Research Advisory Committee (RAC) :

It is constituted by the Vice-Chancellor with Experts in Research and Academics. The committee will advise the Dean (Research) in matters referred by the Vice Chancellor.

12.0 PROGRESS REPORTS

12.1 It is mandatory to submit the Half-Yearly progress reports periodically to monitor the progress of research work. This shall be presented before the Research / Doctoral Committee.

12.2 The progress report should consist of important research activities such as experiments conducted, data collected, including attendance at conferences, seminars, workshops and publications, if any

12.3 The progress report should be approved for its satisfactory nature, by all Research / Doctoral Committee members.

12.4 The following should be monitored by the Dean (Research)

- *Attendance of the Scholar

- *Periodic Payment of all dues to the University

- *Course work completion

- *Seminar 1 - on the proposed topic of research

- *Completed Research work - publications - a minimum of 2 in Scopus rated journals

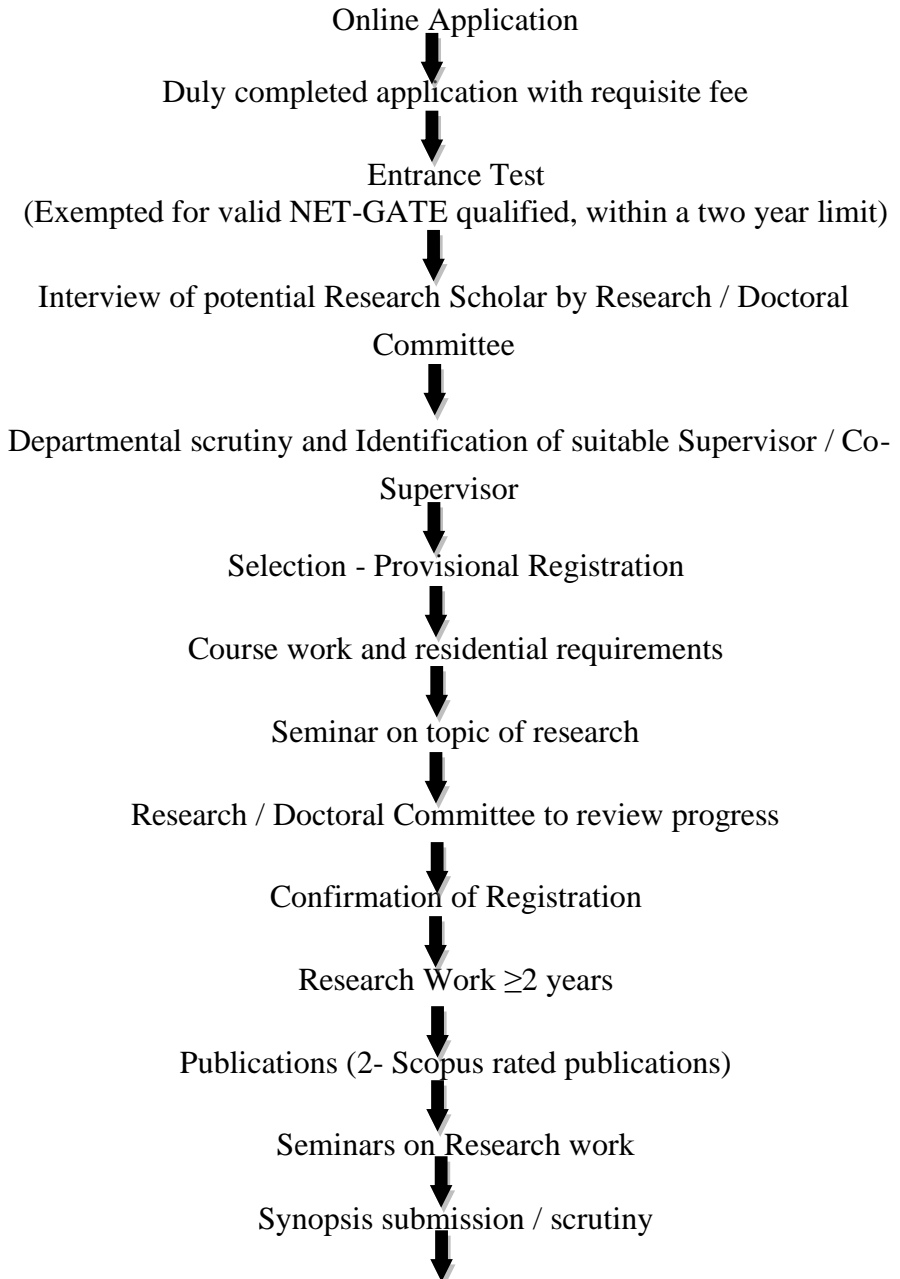
- *Synopsis scrutiny-presentation - University standards – before sending to Examiners

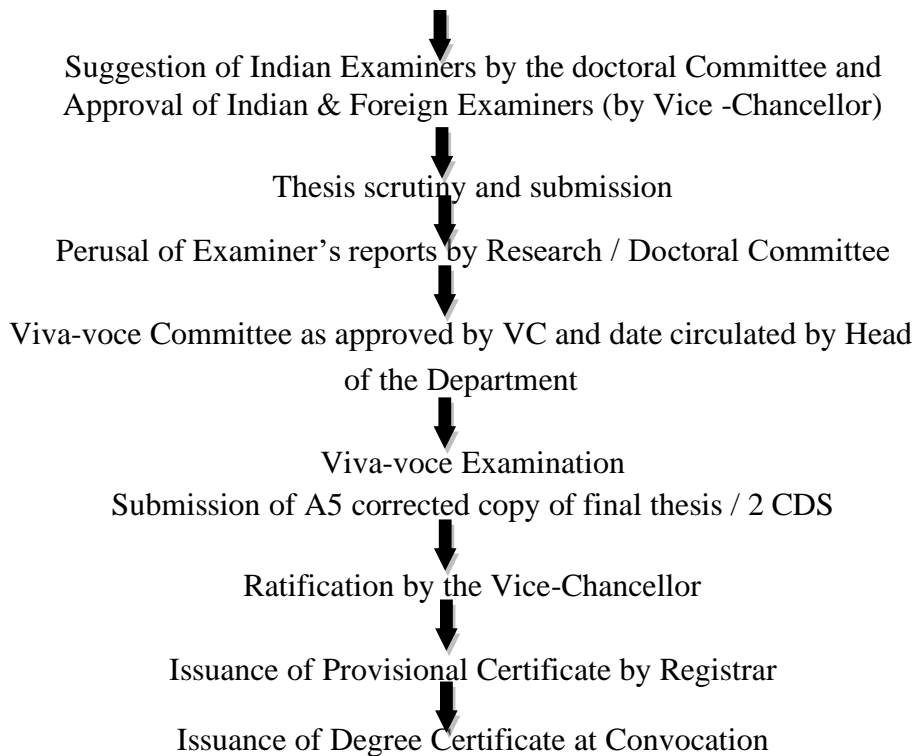
- *Seminar on the Research work done by the candidate before submission of synopsis

- *Thesis scrutiny - to adhere to University standards, plagiarism, if any, to be verified and noted.

- *Last Doctoral Committee meeting to examine Thesis after receipt of reports of Examiners.

PROCEDURES





13.0. CANCELLATION OF REGISTRATION

- 13.1. The Registration of a scholar shall be cancelled, if he/she has exceeded the maximum period stipulated for the programme.
- 13.2 The Registration is liable for ***cancellation*** by the Dean (Research) under the following circumstances:

When the Scholar has not paid the semester fees within the stipulated period of time as per the following guidelines;

- (i) Candidates admitted in July semester should pay the fees before the end of July
- (ii) Candidates admitted in January semester should pay the fees before the end of January
- (iii) A grace period of 15 days may be permitted with a penalty of Rs.250/-
- (iv) Candidates admitted could withdraw within a period of 15 days after payment of fees; Tuition fees will be refunded in full except admission and other miscellaneous fees. Candidates intending to withdraw after this period will not be eligible for any refund.
- (v) When half-yearly progress reports are not submitted periodically
- (vi) When the progress of the Scholar is not satisfactory to the Research / Doctoral Committee as reported in the minutes and recommended by the committee
- (vii) When the Scholar wants to withdraw from the programme and request for cancellation by a letter
- (viii) When Thesis is not submitted within six months after the submission of synopsis, without getting approval for any extension
- (ix) Plagiarism is involved in the Thesis
- (x) Influencing Thesis Examiners by the Scholar / Supervisor in favour of the Thesis

13.3 Any other violation of the rules and regulations of the Ph.D. programme. In all the above cancellation cases, the fees already paid shall not be refunded.

14.0 RECOGNITION OF SUPERVISOR

- 14.1 The applicant Supervisor should possess Ph.D. degree in the relevant area of research in which he/she proposes to guide the scholar, with at least two years of research experience after his / her Ph.D. and with a minimum of two research publications in refereed national / international indexed journals to his / her credit after Ph.D.
- 14.1.1 Eligibility for a Supervisor in the faculties of Medicine /Dental Surgery
- (a)As mentioned in Sec.14.1 (or)
 - (b)A Professor who has teaching Experience for P.G. Classes for more than 10 years with at least 4 research publications in rated Journals.
- 14.2 The applicant for Supervisor recognition shall be working as a full-time faculty in the University Departments or employed full time in well established National Laboratories or Industrial Research Laboratories.
- 14.3 Recognition as Supervisor for guiding research work shall be issued on the recommendation of the Research Board and approval of the Vice Chancellor
- 14.4 Supervisors working in the recognized departments of National Laboratories / Units of Government / Quasi Government or any other research Laboratories without any experience in guiding doctoral research shall function as Co-Supervisor only.
- 14.5 For interdisciplinary research that requires more than one expert, the Co-Supervisor shall be approved by the Research Board or the Dean (Research) with the approval of the Research / Doctoral Committee.

- 14.6 A Supervisor shall entertain fresh registration of scholars under him/her up to two years prior to his/her superannuation or leaves service, and a Co-Supervisor is mandatory in such cases
- 14.7 Contact of Thesis Examiners by the Supervisor / Co-Supervisor after the submission of Synopsis / Thesis of his/her scholar in connection with the evaluation report shall lead to the withdrawal of his/her Supervisor-ship for a period of three years and he/she shall be debarred from guiding the Scholars for any research programme in the University till such period.
- 14.8 A Supervisor shall be permitted to supervise only a maximum of six (6) scholars for Ph.D. at any time as Supervisor / Co-Supervisor and not more than 5 M.S. (by Research) scholars, inclusive of commitments elsewhere, as a Co-guide as well (as per MHRD / UGC revised guidelines).
- 14.9 Age: The Supervisor / Co-Supervisor shall not enroll new candidates on attaining the age of 68 years.

15.0 CHANGE OF SUPERVISOR

- 15.1 Change of Supervisor is not permitted under normal conditions
- 15.2. However, when a Supervisor is away from his/her work spot for more than six months and up to one year, the Supervisor shall continue to supervise the scholars. But, there will be a Supervisor-in-charge nominated by the Dean (Research) at the request of the Supervisor and with the approval of the Research / Doctoral Committee. The Supervisor-in-charge will function till the Supervisor returns.
- 15.3. When the Supervisor is away from his/her work spot for more than one year, an alternate Supervisor shall be nominated in consultation with the Supervisor and with the approval of the Vice-Chancellor.
- 15.4. A scholar will be allowed to change his/her Supervisor only once

during his/her Research period.

- 15.5. When the Supervisor is not satisfied with the performance of the scholar, the Supervisor can withdraw from guiding the scholar further. In such cases, an alternate Supervisor will be nominated by the Dean (Research) in consultation with the Head of the department and the approval of the Vice Chancellor.
- 15.6 When the scholar is not satisfied with the guidance of the Supervisor, the change of Supervisor will be considered by the Research Board and a decision will be taken on the merits of the case

16.0 SUBMISSION OF SYNOPSIS

- 16.1. A scholar shall be permitted to submit the synopsis three months prior to the completion of the minimum duration of the programme.

16.1.1 Synopsis Structure

Cover / Title Page	Appendix - I
Bonafide Certificate	Appendix -II
Declaration by Scholar	Appendix - III
Synopsis of work done by author in single line spacing - (Objectives, Theoretical and Experimental observations, Inferences and Conclusions)	
References	Appendix - IV
Selected Tables & Figures, if any	
List of publications made by the author	Appendix - V

- 16.2 The Synopsis shall be accepted only when the scholar has published at least, one paper in a national journal and one paper in an international journal (both SCOPUS rated). He should also have delivered a seminar on his research prior to the submission of the synopsis.

- 16.3. A copy of the synopsis shall be submitted to the Research/Doctoral Committee in the prescribed format through the Supervisor (and Co-Supervisor, if applicable) for approval.
- 16.4. After the approval of the synopsis by the Research / Doctoral Committee, six copies (6) of the synopsis and two soft copies should be submitted to the Dean (Research), along with a list of six (6) Examiners who are experts in the field of research of the scholar, three (3) from India and three (3) from abroad. No two Examiners shall be from the same institution. Full details of the Examiners such as their designation, place of employment / affiliation, e-mail id, present address, contact phone number of each Examiner and their expertise/ publications / research guidance, are furnished.
- 16.5. The fees prescribed for submission of synopsis and thesis should be paid as prevailing at the time of submission.

17.0 SUBMISSION OF THESIS

- 17.1. The scholar should submit his / her thesis not later than six months after submission of Synopsis and before the expiry of minimum period of Research prescribed.
- 17.2. The scholar should submit five (5) copies of the Thesis along with 2 copies of CD in pdf and a Word format.
- 17.3. The Thesis should be in an organized and scholarly fashion.
- 17.4. The Thesis should contain original research work of the scholar leading to the discovery of new facts and techniques. The Thesis should demonstrate a quality contribution to the advancement of knowledge and the scholar's ability to undertake sustained research.

- 17.4.1. All Theses submitted to the Dean (Research) needs to be submitted after a plagiarism check through **www.turnitin.com** Plagiarism could be accepted /allowed up to 10% (A copy of this report would be sent to the Examiners, so that they may examine it for its implication on the quality/originality of the Thesis); beyond which the Thesis, shall stand rejected or if the Doctoral Committee feels, could be re-submitted after suitable corrections. This check with the plagiarism report shall only then be ready for dispatch to the External Examiners.
- 17.5 A Title page of the Thesis, cover, format etc. should strictly conform to the format of presentation as prescribed by the University (Appendix X)
- 17.6. The Thesis should carry a declaration by the candidate (Appendix XI) and a certificate duly signed and forwarded by the Supervisor (Appendix XII)
- 17.7 The Thesis should not be hard bound and it should have a thick and flexible cover.
- 17.8 No Candidate shall ordinarily be permitted to submit the Thesis after a period of 6 years in the case of full-time research scholars and 7 years in the case of part-time research scholars.
- 17.9 The University, for valid reasons and on the recommendation of the Supervisor and the Research / Doctoral Committee may grant an extension of time for not more than two years in all, and within six months for each extension of time.
- 17.10. A scholar who is not able to submit the Thesis after the grant of extension of two years shall have his/her registration cancelled.
- 17.11. The extension of six-monthly installments at a time shall be granted only after monitoring the progress by the Research/Doctoral Committee, and if the progress is unsatisfactory the Research / Doctoral Committee can decide to cancel the registration.

- 17.12. A penalty will be levied for each installment of extension and the amount of penalty will be fixed by the University from time to time.
- 17.13. The Thesis/Synopsis should be written in *English* for subjects other than languages.
- 17.14. Submission before the minimum period prescribed will not be entertained.
- 17.14.1. Notwithstanding anything contained in this regulation, regarding the minimum period of research to be put in by candidates before becoming eligible to submit their Thesis for the degree, Research Advisory Committee (RAC) is competent to permit candidates to submit their Thesis earlier by a period of not exceeding six months with the approval of the Vice Chancellor, definitely not earlier than two years.
- 17.14.2. Request for early submission from candidates should be accompanied by
- (a) The recommendations of the Supervisor for relaxations based on the satisfactory completion of the research work for the Thesis topic with evidence that the candidate has been working consistently even prior to his provisional registration for the Ph.D. degree on the topic of his research and,
 - (b) Evidence of having completed the required work for the Thesis by way of at least two publications in the topic of Ph.D. research in recognized, refereed (or) accredited journals as first author after one year of his/her provisional registration. (Sec. 16.2)
 - (c) It must obtain the approval of the RAC.

18.0 RE-REGISTRATION

18.1. A Candidate who has not submitted the Thesis at the end of the maximum required period and even after extension being granted, may choose to re-register under the same Supervisor in the same topic with the prescribed fees in continuation of the date of expiry of the maximum period as prescribed. In such cases, the re-registered candidate shall be permitted to submit his/her Thesis after a period of one year but not later than two years. For re-registered candidates with change of Supervisor and/or topic of the Thesis the required period would be similar to that of freshly registered candidates.

19.0 ADJUDICATION OF Ph.D. THESIS

19.1. The Supervisor is required to submit a panel of Examiners for the candidate in consultation with the other members of the Doctoral Committee in a sealed cover to the Dean (Research) in the prescribed format. In case the Supervisor fails to provide the list of Examiners even after two monthly reminders, then, the concerned Head of the Department may be requested to provide the list of Examiners.

19.2 BOARD OF EXAMINERS

The Vice Chancellor may appoint a Board of Examiners for valuation of the Thesis consisting of the Supervisor as the Convener and two other external Examiners, one from within India and the other from outside India, from the panel of three in each category, submitted by the Supervisor and recommended by the Doctoral Committee. The Vice Chancellor may decide to change the panel suggested by the Supervisor, if, and when, necessary, provided further, that no close or immediate relative of the candidate / Supervisor is appointed as an Examiner.

19.3 EVALUATION OF THE THESIS

- 19.3.1. The thesis shall be scrutinized by a Scrutiny Committee constituted by the Vice Chancellor to assess the overall work, and the quality of presentation of the Thesis. If there is any deviation, it shall be rectified by the scholar in consultation with the Supervisor and with the approval of Dean (Research), before dispatch to Examiners.
- 19.3.2. The Thesis shall be referred to two Examiners (one from India and another from Abroad) by the Vice Chancellor from Panel of Examiners recommended by the Doctoral Committee. If necessary, the Vice Chancellor may also nominate the Examiners from outside the panel.
- 19.3.3 The Examiners shall send his/her willingness to evaluate the Thesis within one month from the date of receipt of the synopsis.
- 19.3.4. The Board of Examiners appointed shall value the Thesis and send a report on the basis of their evaluations for the award of the Ph.D. /M.S. degree.
- 19.3.5. The Examiners may be requested to send the evaluation report in the prescribed format within two months from the date of the receipt of the Thesis.
- 19.3.6. The Dean (Research) will take necessary steps, if there is no proper response from the Examiners within the prescribed time request the Vice Chancellor to recommend another Examiner out of the panel and send the Thesis to that Examiner.
- 19.3.7. The Examiner shall include in his/her report an overall assessment, placing the Thesis in any one of the following categories:

- (a) The thesis can be accepted in the present form and based on the standard; it can be classified as “Highly Commended /Commended”.
- (b) The Thesis can be accepted after the incorporation of the corrections indicated in the report and to place the corrected copy for the Viva-voce Examination Board, but the corrected thesis need not be sent to the Examiner for re-evaluation, if the Examiner suggests.
- (c) The corrections and modifications suggested by the Examiner should be incorporated and the corrected thesis shall be sent to the Examiner for evaluation and recommendation, if the Examiner suggests.
- (d) The thesis is rejected on the basis of the Examiners detailed report (detailed report shall be sent by the Examiners). The Examiner shall also enclose a detailed report for the classification as in (a), (b), (c) & (d) in about 200 to 300 words.

19.3.8. If both the Examiners recommend for the award of the degree, Thesis shall be provisionally accepted. Any revision, modification etc., suggested by the Examiners shall be carried out before the Viva-voce examination.

19.3.9. If any Examiner recommends any revision in the thesis, the scholar shall be permitted only once to revise and resubmit the thesis within 6 months, and the revised thesis shall be referred to the same Examiner only when the Examiner insists for such action. The recommendation either for the award or for the rejection will be accepted.

19.3.10. If one Examiner recommends for the award of the degree while the other recommends rejection, the thesis shall be referred to the third Examiner who shall be nominated by the Vice Chancellor. If two of the three Examiners recommend the award of the Degree, the Thesis shall be provisionally accepted.

19.3.11.If both the Examiners recommend rejection, the Thesis shall be rejected and the registration of the scholar shall stand cancelled.

19.3.12.If the Examiner does not insist to send the thesis back to him/her, when all the corrections in the thesis have been carried out, the Thesis shall be referred to the Doctoral Committee, to ascertain whether the corrections pointed out by the Examiners have been carried out.

19.3.13.Individual cases which are not covered by the above clauses shall be referred to the Vice Chancellor for a final decision.

20.0 VIVA - VOCE EXAMINATION

20.1. A candidate whose Thesis has been recommended for the award of the degree by the Board of External Examiners who valued the Thesis, shall submit himself/herself to a Viva-voce Examination, conducted by the Supervisor, one External Examiner appointed by the Vice Chancellor from the institution along with the Indian Examiner. The Supervisor of the Thesis will be the Convener and the Head of the concerned Departments of the University will be the Coordinator for the Viva-voce examination.

20.2. Procedure for the conduct of the Viva-voce

*The Viva-voce examination shall be with the participation by invitation of

(i) Head of the concerned Department (s);

(ii) The Thesis Supervisor (s);

(iii) Indian Examiner of the thesis;

(iv) Local Examiner chosen;

(v) University students and other faculty members from Dr. M.G.R. Educational and Research Institute, (Deemed University) and other institutions.

Circulars of invitation announcing the date, time, venue and name of the Scholar, his Department and Faculty and the title of the Thesis shall be displayed in the University notice boards and the website. In addition, it may be sent to other Institutions of interest in the Thesis contents.

* The Audio-Visual to be checked before starting the presentation.

* If the topic is of an inter-disciplinary nature, the Faculty Representative from both the disciplines should be invited for Viva-voce.

*Names, Designation and Signatures of the members who attend the Viva-voce to be obtained in a register.

*Head of the Department (Convener of the Doctoral Committee) shall welcome all present.

*Head of the Department shall announce the name of the candidate, field of research of the candidate, the Thesis title / topic and the dates of acceptance of the Thesis and the names of the Viva-voce Examiners.

*Head of the Department shall after introducing the Thesis Supervisor, the external and internal Examiners for the Viva-voce only by name, their broad areas of specialization and Institution affiliation, requests the candidate to start his presentation.

*The candidate's presentation shall last around 30 minutes followed by questioning or clarifications raised by the Thesis Examiners. Examiners must question in depth on the possible deficiencies, possible improvements in a highly critical manner.

*After this session, there would be an open discussion / Clarification session, in which the audience could participate with questions to the candidate.

*Audience and the candidate could now withdraw from the Viva-voce precincts, allowing the Examiners to complete the formalities keeping in mind fairness to the reputation of the university's doctoral/research program, as needed by the statutory requirements.

- 20.2 When the Indian Examiner is not available to conduct the public Viva-voce Examination due to any reason, the Vice Chancellor will appoint a suitable Examiner in place of the Indian Examiner.
- 20.3 A copy of the thesis of the candidate appearing for the Viva - voce Examination shall be available in the concerned department for perusal of those interested in the Thesis before the conduct of the Viva-voce Examination, together with appropriate public notice issued by the Supervisor for the purpose. The Supervisor shall convey to the University the result of such Viva-voce Examination duly endorsed by the other members of the board together with a list of participants in the examination with their signatures/designations and addresses. A candidate who is successful at the Viva-voce examination shall be declared to have been qualified for the Ph.D./M.S. degree. The Vice-Chancellor shall seek the ratifications of the Board of Management for the same in due course.
- 20.4 If for any reason, the Supervisor is unable to conduct the Viva-voce examination within two months after the approval of the consolidated report on the Thesis, the Vice Chancellor may appoint a suitable Examiner in his/her place. A candidate who is not successful at the Viva-voce examination, as per the opinion of the board, he/she may be permitted to take the same on a 2nd occasion, after the expiry of three months. If he/she is not again successful at the Viva-voce examination, the degree will not be awarded to him/her. Signature and designation of the Faculties and others who had participated in such Viva-voce examination would be obtained, for records.
- 20.5 A copy of the Thesis should be submitted to the University Main Library. No candidate shall be permitted to submit Thesis or to appear for the Viva-voce examination on more than two occasions.

20.6 The Final corrected copy of the Thesis should be reduced to A5 (two copies) with printing in black letters on one side with hard bound binding in white colour and submitted after the Viva-voce examination duly certified by the Supervisor and Co-supervisor (if applicable), with his/her signature that all the corrections/modifications suggested by the Examiners have been incorporated in the Thesis. Soft copy of the Thesis in Compact Disc MS Word format (2 Nos.) should be submitted for University archives, along with two copies of the A5 copy of the final corrected Thesis.

21.0 FORMAT OF THE DEGREE CERTIFICATE

21.1 The Ph.D./ M.S degree Certificate shall incorporate

- (a) The title of the Thesis as found on the Thesis cover submitted by the candidate.
- (b) Name of the Scholar, as indicated in the provisional registration for the Research degree, as found in his qualifying degree certificate. In case of the award of the Ph.D. degree for interdisciplinary research, certificate shall bear the subject of the candidate's post graduate degree and the discipline of the department in which the candidate has conducted his/her doctoral research mentioning them as inter-disciplinary. The Faculty for the award of the Ph.D. degree shall normally be based on the PG qualification of the Scholar / Supervisor's department, except in the case of the interdisciplinary projects in which case the Faculty of the Supervisor shall alone be accepted.

22.0. PUBLICATION OF THE THESIS

22.1. A Thesis whether approved or not, shall not be published in full without the permission of the University and the University may grant permission for publication under such conditions as it may impose. But papers arising out of the Thesis may be published by the Scholar and the Supervisor, with due acknowledgement being given to Dr. M.G.R. Educational and Research Institute.

22.2. All administrative work from the initiation of provisional registration till the conduct of Viva-voce shall be the responsibility of the Dean (Research). Once the Viva-voce examination work is completed, the work related to the award of the Degree, Provisional Certificate and the Degree Certificate will be the sole responsibility of the Controller of Examinations.

23.0 ACT OF PLAGIARISM

23.1. In the case of scholars who have committed the act of plagiarism, his/her Thesis/degree shall be forfeited and his/her research registration shall be cancelled and he/she shall be debarred to register for any other programme in the University, all after proper enquiry.

23.2. For the abetment, if any, of above such action the recognition of his/her Supervisor-ship shall be withdrawn and he/she shall be debarred from guiding the scholars for any research programme.

24.0 TRANSITORY PROVISION

The scholar shall be governed by the regulations as in force from time to time. The Supervisors and scholars will be informed if there is any change in the regulations. However, they should be in contact with Dean (Research) Office and refer the University website www.drmgrdu.ac.in from time to time

25.0 POWER TO MODIFY

Notwithstanding all that has been stated above, the Board of Management has the right to modify any of the above regulations from time to time.

APPENDIX I
FORMAT FOR MS / Ph.D. SYNOPSIS
A TYPICAL SPECIMEN OF COVER PAGE AND
TITLE PAGE FOR SYNOPSIS

ECOFUELING AS A MEANS OF DECREASING
POLLUTION IN DIESEL ENGINE EXHAUSTS

 <1.0 Line Spacing>

SYNOPSIS OF THE THESIS

Submitted by

 <Italic>

VIJAY KUMAR, S.

in partial fulfillment for the award of the degree
of

 <italic> <1.0 line spacing>

DOCTOR OF PHILOSOPHY

Department of<Size 16>

FACULTY OF<Size 16>

<1.0 line space>

Dr. M.G.R. EDUCATIONAL AND RESEARCH INSTITUTE

(Deemed to be University u/s 3 of UGC Act 1956)

(An ISO 9001 : 2008 Institution)

CHENNAI 600 095

<1.0 line spacing>

DECEMBER 2012 <Font16>

APPENDIX II

FORMAT FOR M.S. / Ph.D. SYNOPSIS

A typical specimen of Bonafide Certificate <Font size Times
New Roman>

BONAFIDE CERTIFICATE

 <1.5 space>

Certified that the Synopsis of the Thesis entitled “**ECOFUELING AS A MEANS OF DECREASING POLLUTION IN DIESEL ENGINE EXHAUSTS**” is the bonafide work of **Mr. VIJAY KUMAR, S.** who had carried out the research under my supervision and without any plagiarism to the best of my knowledge. Certified further, that the work reported herein does not form part of any other Thesis or Dissertation on the basis of which a degree or diploma was conferred on an earlier occasion on this or any other scholar.

Signature of the Co-Supervisor

<Name>

Co-Supervisor

<Designation & Address>

Signature of the Supervisor

<Name>

Supervisor

<Designation & Address>

with Office Seal

APPENDIX III

DECLARATION BY THE CANDIDATE

 <one and half space>

I declare that the Synopsis of the Thesis entitled submitted by me for the degree of Master of Science (by research) / Doctor of Philosophy is bonafide record of work carried out by me during the period from to under the guidance of and has not formed the basis for the award of any degree, diploma, associate-ship, fellowship, titles in this or any other University or other similar institution of higher learning and is without any plagiarism.

I have also published my papers in International Journals (SCOPUS rated) as per list of publications in the Annexure.

Signature of the Candidate

APPENDIX IV

REFERENCES

- GopiKrishna, V 2010, 'Evaluation of the Effect of MTAD in Comparison with EDTA when Employed as the Final Rinse on the Shear Bond Strength of Three Endodontic Sealers to Dentine', *Australian Endodontic Journal*, vol. 4, no. 2, pp. 202-209
- Hill, P & Peterson, C 1992, *Mechanics and Thermo dynamics of Propulsion*, 2nd edn, Addison-Wesley Publishing Co., Reading, Massachusetts
- Ramesh, L Chowdry, SP & Chowdhury, S 2009, 'Minimization of Power Loss in Distribution Networks by Different Techniques', *International Journal of Electrical Power and Energy Systems Engineering*, vol. 2, no. 3, pp. 12-18
- Sreenivasan, RS Krishna Moorthy, P Deccaraman, M Shanthi, P Prasad, S Hewings, A et al. 2003, 'Effect of Phoshatases Activity in the Hetopancreas and muscle of the Fresh Water Female Field Crab, spiralothelphusa hydrodroma (Herbst) treated with cypermethrin', *International Journal of Pharmaceutical Science and Drug Research*, vol. 3, no. 2, pp. 123-123
- Rao, P Cyril Prasanna Raj, V & Ravi, S 2009, 'Design and ASIC Implementation of Root Raised Cosine Filter', *European Journal of Scientific Research*, vol. 31, no. 3, pp. 10-15
- Saravanan, TS 2006, 'Drink to Your Health', *The Hindu*, 5 November, p. 6
- Chang, SS Liaw, L & Ruppenhofer, J (eds) 2000, *Proceedings of the twenty-fifth annual meeting of the Berkeley Linguistics Society, February 12-15, 1999*: Linguistics Soc., Berkeley

WEB REFERENCES

•Este, J Warren, C, Connor, L Brown, M Pollard, R & Connor, T 2008, *Life in the clickstrea : the future of journalism*. Media Entertainment and Arts Alliance, viewed 27 May 2009, http://www.alliance.org.au/documents/foj_final.pdf

APPENDIX V

LIST OF PUBLICATIONS

- Rajeswari, N 2009, ‘Bi-criteria Parallel Flow Line□Scheduling using Hybrid Population based Heuristics’, *International Journal of Advanced Manufacturing Technology*, vol. 43, no. 7, pp. 8-10 (**Scopus Indexed**)
- Rao,P Cyril Prasanna Raj, V & Ravi, S 2009, ‘Designand ASIC Implementation of Root Raised Cosine Filter’, *European Journal of Scientific Research*, vol. 31, no. 3, pp. 10-15 (**Scopus Indexed**)
- Sivaprakasam, C 2009, ‘Recovering Biogas Energy through Anaerobic Waste Water Treatment using ABR’, *International Journal of Innovation in Electrical Power System*, vol. 1, no. 2, pp. 13-20

APPENDIX –VI

FUNCTIONS OF THE RESEARCH/DOCTORAL COMMITTEE

1. To discuss, advise and recommend on all matters pertaining to the candidate's research from provisional registration till the submission and acceptance of the Thesis.
2. To recommend course-work including a course on Research Methodology to be undertaken by the candidate during the first year of his/her provisional registration, in the light of his/her attainment with a view to fulfilling the requirement of research.

Such courses of instruction may be given as short-term courses lasting for one semester on such subjects, as may be chosen by the Research/Doctoral Committee. They may be advanced lecture courses available in this University or in any other approved institute or laboratory related ones.

3. To suggest courses offered by other universities like Anna University, IIT-Madras, University of Madras, CLRI.
4. To recommend the confirmation of the provisional registration of a candidate when he/ she completes such courses, at the end of the first year of provisional registration along with the marks/grades obtained by the Scholar and to report to the University on the fitness or otherwise of the candidate to proceed with his/her research work for the M.S./Ph.D.
5. In case, where a candidate is not approved at the end of the first year by the Research/Doctoral Committee/University, it may recommend that the candidate should undertake, additional course work/examination for a further period of not exceeding six months, at the end of which he/she be examined again; and if found fit, his/her provisional registration will be confirmed and he/she will be permitted to proceed with his/her research work. For candidate who is not found fit even after the additional course and re-examination, may advise the cancellation of the provisional registration. Any advanced on-line courses. (e.g., MIT, Harvard, IIT, Stanford etc.) may also be recommended but followed by a proper adjudication of examinations given on the suggestion of the RC/DC.
6. To monitor the performance of the candidates in seminars given by the candidate.
7. To monitor the candidate's report of the research work as per the rules and regulations periodically by directing him/her.
 - a) To submit reports once in six months positively to the University on the progress in research work in the prescribed format.

- b) To ensure he/she has completed the stipulated residential requirements needed by the University's Rules and Regulations.
 - c) To conduct and supervise a presentation by the candidate of the final draft of his/her proposed Thesis for approval before the submission of synopsis of the Thesis to the University and to give a certificate to this effect to be submitted along with the synopsis.
8. To approve the panel of six names (three from abroad and three from within India) given by the Supervisor is forwarded by the Head of the Department or suggest a new panel for appointment as Examiners by the University, for evaluating the Thesis and for conducting the Viva-voce examination, taking special care to see that none of the names so suggested is an immediate relative of the candidate/Supervisor.

Provided, that persons suggested for appointments as Examiners would hold Ph.D. degrees, with teaching and/or research experience of at least 10 years at the post-graduate level with research publications in standard refereed research journals, national and international to their credit.

9. To critically assess the Thesis Examiner's reports and recommend the award of Degree to the Board of Management, if the reports of the Examiners are positive. In case, one of the reports is found to be negative, to suggest to Vice Chancellor, the need for a third evaluation of the thesis.
10. In case, both reports are negative, decision may be taken by Vice-Chancellor on the recommendation of the Doctoral Committee to either reject the thesis or provide an additional time period to the candidate and to re-submit a revised Thesis.

APPENDIX –VII
PROGRESS REPORT OF THE MS/Ph.D. SCHOLAR
To be submitted once in six months to the
Office of the Dean (Research)

- i. The progress reports shall be submitted by the candidate in quadruplicate, to the Supervisor declaring that the work was carried out during the period of this report (in about 300 words) duly signed by the candidate and countersigned by the Supervisor.
- ii. The Supervisor shall fill his/her part, sign and get it countersigned by the Head of the Department of the Supervisor.
- iii. The first copy to be retained by the Supervisor for placing before the Research /Doctoral Committee and for office record, second copy shall be sent to the Dean (Research) through the Head of the concerned department, the third copy shall be sent to the parent institution wherever applicable, and the fourth copy to the scholar.

1. Particulars about the candidate :
Name :
Designation :
(where applicable)
Institution where employed :
(applicable to all)
Period of the Report :

2. Registration Number and date
Category of Registration

Full -Time

Part –Time.....
(Internal)

Part –Time.....
(Internal)

3. Particulars of the Supervisor

i. Supervisor

- a) Name:
- b) Designation:
- c) Institute (s) where employed:
- d) No. of Students registered under the Supervisor as on date:

ii. Co-Supervisor (if any)

- a. Name:
- b. Designation:
- c. Institution where employed:
- d. No. of Students registered both Supervisor/Co-Supervisor:

4. Name of department/Institution where research is conducted:

5. Area of work and tentative title of the proposed Thesis:

6. Details of progress:

a. Whether the candidate's report in triplicate is enclosed? :

Yes....No.....

b. Whether papers have been published or any patents taken? (If yes, furnish Details): Yes....No.....

c. Whether Papers on the Candidates Research work presented /Submitted in Seminars/Conferences? (If yes, furnish details): Yes....No.....

d. Whether completed the prescribed course work. If yes, (give full Particulars) Yes....No.....

e. Has the residential requirement been met? (Give full particulars):

7. Has the Tuition Fee been paid for the Year(s): Yes....No.....

8. Has the registration fee been paid?: Yes....No.....

Date: Signature of the Scholar

9. Remarks of the Supervisor

a. Attendance : Satisfactory/Not Satisfactory

b. Progress : Satisfactory/Not Satisfactory

c. Expected time of completion:

10. Supervisor's critical comments on the Scholar's report? (If yes, give details):

Signature
of the Supervisor
(with date)

Signature
of the Co-Supervisor
(with date)

Signature of the Head
of the Department
(with date)

Approval by Dean (Research)
(with date)

APPENDIX –VIII

FORMAT FOR INTER –DISCIPLINARY RESEARCH PROPOSAL

**This proforma should be forwarded along with the Minutes of the
Doctoral Committee**

Name of Co-Supervisor of Scholar :
Academic Qualification :
Age and Date of Birth :
Occupation (if any) Designation :
Organization Details, if Employed :
Name of the Organization Nature of Duration of
(With complete Address) Work Employment

Name of the Scholar :

The subject in which the candidate has :
qualified for the Master's degree

The Proposed Disciplines in which the
candidate intends to work for M.S/Ph.D. :

The Proposed Department (with Address)
Where candidate intends to work for M.S/Ph.D. :

The theme of the Proposed Research :
(in not more than 500 words)

Whether the proposed M.S/Ph.D. theme is partly, :
directly or indirectly related to the branches of
knowledge in which the candidate has
qualified for Master's degree?

If so, briefly describe (in not more than 50 words) :
the input from the two disciplines to the proposed
area of Research for M.S/Ph.D.

Comments of the Supervisors under whom:
Inter-disciplinary research is proposed

Signature of the Supervisor
(Supervisor)

Signature of the
Research Scholar

Signature of the Co-Supervisor
(Co-Supervisor)

Signature of the
Head of the Dept

Date

APPENDIX-IX

SUGGESTIONS & GUIDELINES FOR THE PREPARATION OF THE THESIS

1. INSTRUCTION

The Scholars are expected to follow the instructions given hereunder and adhere to them in the preparation of the Thesis. Non-compliances may result in the rejection of the Thesis being submitted.

2. SIZE OF THESIS

The Thesis should not normally exceed 300 pages of typed matter (one side only) reckoned from the first page of Chapter 1 to the last page of the Appendices (A4 format).

3. ARRANGEMENT OF THE CONTENTS OF THE THESIS

The sequence in which the Thesis material should be arranged and bound is as follows:

1. Cover Page and Title page
2. Declaration by the Candidate
3. Bonafide Certificate by the Supervisor/Co-Supervisor
4. Abstract
5. Acknowledgement
6. Table of Contents
7. List of Tables
8. List of Figures
9. List of Symbols and Abbreviations
10. Chapters
11. References/Bibliography (*Harvard Referencing Style*)
12. Appendices
13. List of Publications/Patents, if any

The Tables and Figures should be included at appropriate places in the running text of the Thesis.

4. PAGE DIMENSIONS AND MARGIN

The Thesis should be prepared on good quality white paper not lower than 80gsm. Standard A4 Size (297mm x 210mm) paper may be used for preparing the copies. The dimensions of the final Thesis (3 copies) should be bound with calico using flexible cover of thick white art paper.

The final Thesis (at the time of submission) should have the following page margins:

Top edge	: 30mm
Bottom edge	: 25mm
Left Side	: 35mm
Right Side	: 20mm

All Tables and Figures should conform to the margin specifications. Indicated Figures should be photographically or otherwise appropriately being reduced in size before placement.

5. MANUSCRIPT PREPARATION

While preparing the manuscript, care should be taken to ensure that all matter is typewritten in the same format as may be required in the final Thesis.

The Headings of all items listed should be typed in capital letters without punctuation and centered 50 mm below the top of the page. The text should commence 4 spaces below this Heading. The page numbering for all items should be done using lower case Roman numerals and the pages thereafter should be numbered using Arabic numerals.

5.1. Cover Page & Title page-A Sample copy of the Cover page and Title page for the Thesis is shown in Appendix-X.

5.2 Bonafide Certificate-The Bonafide Certificate shall be typed in one and half line spacing using Font Style Times New Roman and Font Size 12 as per the format shown in Appendix-XII.

The certificate shall carry the Supervisor's Signature, Name, Designation,(along with that of the Co-Supervisor, if any), department, and full address of the institution where the Supervisor had guided the research Scholar.

5.3. Abstract-Abstract should be written in textual format in about 3-4 pages outlining the research, methodology, findings, a summary of conclusions. This shall be typed in one and half line spacing using Font Style Times New Roman and Font Size 12 bold.

5.4. Acknowledgment - Should be brief and not exceed a page when typed in one and half line spacing. The typed Scholar's signature can be at the bottom right hand corner above his/her name in capitals.

5.5. Table of Contents - The Table of contents should list all captions following it as well as any caption which precedes it. The Title page, Bonafide Certificate and Acknowledgment will not be listed in the Table of Contents, the page numbers of which shall be in lower case Roman letters. (One and half spacing should be adopted for typing the matter). A specimen copy of the Table of Contents for the Thesis is given in Appendix-XIII.

5.6. List of Tables-Use exactly the same captions as they appear above the Tables in the text. (One and a half spacing should be adopted for typing the matter)

5.7. List of Figures- Use exactly the same captions as they appear below the Figures in the text (One and half spacing should be adopted for typing the matter).

5.8. List of Abbreviations and Symbols - Standard Symbols, Abbreviations, etc. should be used. The list should be arranged alphabetically with respect to the contents on the right side as shown in Appendix-XIV (One and half spacing should be adopted for typing the matter)

5.9. Chapters -The main text shall be divided into Chapters, each Chapter being further divided into several divisions and sub-divisions.

- Each chapter should be given an appropriate title.
- Tables and Figures in chapters should be placed in the immediate vicinity of the Reference where they are cited.
- Footnotes should be used sparingly, possibly avoided. They should be typed in single space placed below the same page, which refers the detail quoted.

5.10. Appendices

- Appendices should be numbered using Arabic –numerals, e.g. Appendix I, Appendix II, etc.
- Appendices, Tables and References appearing in Appendices should be numbered /referred at appropriate places, just as in the case of chapters.
- Appendices shall carry the title of the work reported and the same title shall be included in the Table of Contents.
- The list of publications (those already published/accepted for publication in journals and papers presented in Conferences/Symposia) by Research Scholar during the period of research, shall be brought in the Appendix titled, as List of publications and reported in the Tables of Contents.

5.11. List of References-References to other researchers, either directly or indirectly, the origin of the material thus referred, should be indicated at appropriate places in the Thesis. The author's publications during the period of research should not be included in the references and can be separately mentioned.

A Paper/monograph/book is referred by the name of the first author, the year of publication, (within brackets) at appropriate places in the Thesis. This may assume any one of following forms.

- All bibliography, citation of references for all theses, both at the Master's and Doctoral levels should strictly follow the *Harvard Referencing Style*.

EXAMPLES OF CITATIONS

An improved method has been indicated

Steinfeld et al. (2006) found.....

Or

It is suggested..... (Steinfeld et al. 2006)

The listing should be typed 2 spaces below the Heading “References” in single spacing. The name of the author/authors should be immediately followed by other details and year of publication.

REFERENCES

- GopiKrishna, V 2010, ‘Evaluation of the Effect of MTAD in Comparison with EDTA when Employed as the Final Rinse on the Shear Bond Strength of Three Endodontic Sealers to Dentine’, *Australian Endodontic Journal*, vol. 4, no. 2, pp. 202-209
- Hill, P & Peterson, C 1992, *Mechanics and Thermo dynamics of Propulsion*, 2nd edn, Addison-Wesley Publishing Co., Reading, Massachusetts
- Ramesh, L Chowdry, SP & Chowdhury, S 2009, ‘Minimization of Power Loss in Distribution Networks by Different Techniques’, *International Journal of Electrical Power and Energy Systems Engineering*, vol. 2, no. 3, pp. 12-18

- Sreenivasan, RS Krishna Moorthy, P Deccaraman, M Shanthi, P Prasad, S Hewings, A et al. 2003, ‘Effect of Phoshatases Activity in the Hetopancreas and muscle of the Fresh Water Female Field Crab, spiralothelphusa hydrodroma (Herbst) treated with cypermethrin’, *International Journal of Pharmaceutical Science and Drug Research*, vol. 3, no. 2, pp. 123-123
- Rao, P Cyril Prasanna Raj, V & Ravi, S 2009, ‘Design and ASIC Implementation of Root Raised Cosine Filter’, *European Journal of Scientific Research*, vol. 31, no. 3, pp. 10-15
- Saravanan, TS 2006, ‘Drink to Your Health’, *The Hindu*, 5 November, p. 6
- Chang, SS Liaw, L & Ruppenhofer, J (eds) 2000, *Proceedings of the twenty-fifth annual meeting of the Berkeley Linguistics Society, February 12-15, 1999*: Linguistics Soc., Berkeley

WEB REFERENCES

- Este, J Warren, C Connor, L Brown, M Pollard, R & Connor, T 2008, *Life in the clickstrea : the future of journalism*. Media Entertainment and Arts Alliance, viewed 27 May 2009, http://www.alliance.org.au/documents/foj_final.pdf

LIST OF PUBLICATIONS

- Rajeswari, N 2009, ‘Bi-criteria Parallel Flow Line Scheduling using Hybrid Population based Heuristics’, *International Journal of Advanced Manufacturing Technology*, vol. 43, no. 7, pp. 8-10 (**Scopus Indexed**)

• Rao, P Cyril Prasanna Raj, V & Ravi, S 2009, ‘Design and ASIC Implementation of Root Raised Cosine Filter’, *European Journal of Scientific Research*, vol. 31, no. 3, pp. 10-15 (**Scopus Indexed**)

• Sivaprakasam, C 2009, ‘Recovering Biogas Energy through Anaerobic Waste Water Treatment using ABR’, *International Journal of Innovation in Electrical Power System*, vol. 1, no. 2, pp. 13-20

➤ Tables and Figures half page or less may appear on the same page along with the text, However, they should be separated from the text both and below by double spacing.

➤ All Tables and Figures should be prepared on the same paper or material used for the preparation of the rest of the Thesis.

➤ Two or more small Tables or Figures may be grouped, if necessary, in a single page. Wherever possible, the photograph(s) shall be reproduced on a full sheet of photographic paper or colour Xerox.

➤ More than one photograph can be included in a page.

Samples of Textile/ Polyester/ Fiber glass, and the like, if absolutely necessary, may be attached evenly in a page and fixed/pasted suitably are to be treated as Figures.

6. TYPING INSTRUCTIONS

6.1. GENERAL

The impressions on the typed/Xerox/printed copies should be black in colour. One and a half spacing should be used for typing the general text. The general text shall be typed in Times New Roman/Font Size12. Single spacing should be used for typing.

Long Tables

Long Quotations

Foot Notes

Multiline Captions

References/Bibliography

All quotations exceeding a line should be typed in indented space-the indentation being 15 mm from either side of the margin.

6.2. CHAPTERS

The format for typing Chapter Headings, Division Headings and Sub-division Headings are explained by the following illustrative examples.

Chapter Heading	:	Chapter 1
Introduction	:	
Division Heading	:	1.1. General
Sub-division Heading	:	1.1.1. Literature Review 1.1.1.1.High Speed

The word Chapter should be centered 50 mm down from the top of the page as shown above. Two spaces below, the title of the chapter should be typed centrally in capital letters. The text should commence 4 spaces below this title, the first letter of the text starting 10 mm inside from the left hand margin.

7. NUMBERING INSTRUCTIONS

7.1. PAGE NUMBERING

All page numbers (whether in Roman or Arabic numbers) should be typed without punctuation on the bottom right hand corner 20 mm from the bottom with the last digit in line with the right hand margin. The preliminary pages of the Thesis (such as Title page, Acknowledgement, Table of Contents, etc.) should be numbered in lower case Roman numerals. The title page will be numbered and taken as (i) but this should not be typed.

The page immediately following the title page shall be numbered as (ii) and it should appear at the bottom right hand corner as already specified. Pages of main text, starting with Chapter 1 should be consecutively numbered using Arabic numeral.

7.2. NUMBERING OF CHAPTERS, DIVISIONS AND SUB-DIVISIONS

The numbering of Chapters, Divisions and Sub-divisions should be done using Arabic numerals only and further decimal notation should be used for numbering the divisions and sub-divisions within the Chapter. For example sub-division 3 under division 2 belonging to Chapter 1 should be numbered as 1.2.3. The caption for the sub-division should immediately follow the number assigned to it.

Every Chapter commencing with the first Chapter should be serially numbered using Arabic numerals. Appendices, included if any, should also be numbered in an identical manner starting with Appendix 1.

7.3. NUMBERING OF TABLES AND FIGURES

Tables/Figures appearing in the Thesis should bear appropriate numbers; the method for assigning such numbers is illustrated by an example: Thus, if a Figure in Chapter I, happens to be the second then assign 1.2 to that Figure as Fig.1.2. Identical rules apply for Tables except that the word Figure is replaced by the word Table, Table 1.2. If a table is to be continued into the next page this may be done, but no line should be drawn at the bottom of the unfinished Table. The top line of the Table continued into the next page should, for example read Table 1.2 (continued) placed centrally.

7.4. NUMBERING OF EQUATIONS

Equations appearing in each Chapter or Appendix should be numbered serially, the numbering should commence afresh for each Chapter or Appendix. Thus for example, an equation appearing in Chapter 1, if it happens to be the third equation of that Chapter should be numbered as (1.3) thus:

$$\dots\dots\dots (1.3)$$

While referring to this equation in the body of the Thesis it should be referred to as Eqn, (1.3)

8. BINDING SPECIFICATIONS

Thesis (5 copies) should be bound with laminated thick white art paper, the cover should be printed in black letters and the text for printing should be identical to what has been prescribed for title page. (Sample copy available in the Dean's Office).

The Final corrected copy of the Thesis should be reduced to A5 in two copies with printing in black letters on one side with hard bound binding in white colour and submitted after the Viva-voce examination duly certified by the Supervisor and Co-Supervisor (if applicable), with his/her signature that all the corrections/modifications suggested by the Examiners have been incorporated in the Thesis. Soft copy of the Thesis in Compact Disc MS Word format (2 Nos.) should be submitted for University archives, along with two copies of the A5 copy of the final corrected Thesis.

APPENDIX X

FORMAT FOR MS / Ph.D. THESIS

***A TYPICAL SPECIMEN OF COVER PAGE AND TITLE PAGE FOR
A THESIS***

**ECOFUELING AS A MEANS OF DECREASING
POLLUTION IN DIESEL ENGINE EXHAUSTS**

A THESIS

Submitted by

VIJAY KUMAR, S.

in partial fulfillment for the award of the degree

of

DOCTOR OF PHILOSOPHY

Department of

FACULTY OF

**Dr. M.G.R. EDUCATIONAL AND RESEARCH INSTITUTE
(Deemed to be University u/s 3 of UGC Act 1956)
(An ISO 9001 : 2008 Institution)**

DECEMBER 2012

APPENDIX XI

DECLARATION BY THE CANDIDATE

I declare that the thesis
entitled.....
..... submitted by me for the degree of Master of Science (by
research) / Doctor of Philosophy is a bonafide record of work carried out
by me during the period **from.....to.....** under the
guidance of.....and has not
formed the basis for the award of any degree, diploma, associateship, and
fellowship, titles in this or any other University or other similar institution
of higher learning and is without any plagiarism.

I have also published my papers in International Journals (SCOPUS
rated) as per list of publications in the Annexure.

Signature of Research Scholar

APPENDIX XII

BONAFIDE CERTIFICATE

Certified that the thesis entitled “**ECOFUELING AS A MEANS OF DECREASING POLLUTION IN DIESEL ENGINE EXHAUSTS**” is the bonafide work of **Mr. VIJAY KUMAR.S.** who had carried out his research under my supervision and without any plagiarism to the best of my knowledge. Certified further, that the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or diploma was conferred on an earlier occasion on this or any other scholar.

Signature of Co-Supervisor

Name

Co-Supervisor

Designation & Address

(with Office Seal)

Signature of Supervisor

Name

Supervisor

Designation & Address

(with Office Seal)

APPENDIX –XIII

TABLE OF CONTENTS

A typical Specimen of Table of Contents for the Thesis

 <1.5 line space>

Chapter No	Title	Page No
	<i>Abstract</i>	iii
	<i>List of Tables</i>	vi
	<i>List of figures</i>	viii
	<i>List of Symbols and</i>	x
	<i>Abbreviations</i>	xi
1.	Introduction	1
	1.1.General	1
	1.2.Objectives of the Research	3
	1.3.Literature Review	45
	1.3.1.High Speed Compressors	45
2.	Development of High Speed Centrifugal Compressor	54
	2.1.General	54
	2.2.Design Aspects	58
	2.2.1.Configuration Script	60
	2.2.2.Specification	63
	2.2.3.Variable Intakes	
	2.2.4.Maximum Flow Velocities	

APPENDIX - XIV

Abbreviations & Symbols

(A typical Specimen of Abbreviations & Symbols for the thesis)

b.n.a.	Basics of Numerical Analysis
c.d.f.	Cumulative Distribution Function
CA	Co-linkage Analysis
CRM	Customer Relationship Management
Dtc	Distance Travelled by Customer
FARS	Fatality Analysis Reporting System
GDP	Gross Domestic Product
HSIS	Highway Safety Information System
IAMAI	Internet and Mobile Association of India
IGF	Improved Green's Function
ISPAI	Internet Service Providers Association of India
LTV	Light Truck Vehicle
MAAP	Microcomputer Accident Analysis Package
MVA	Motor Vehicle Accident
MVC	Motor Vehicle Collision
NEGAP	National E-Governance Action Plan
NeGP	National E-Governance Projects
p.d.f.	Probability Density Function
PIC	Personal Injury Collision
RTA	Road Traffic Accident
RTC	Road Traffic Collision
RTI	Road Traffic Incident
SE	Standard Error
Tasp	Total Average Saving in Petrol
g	Gram
ϕ	Junctions
γ	Fuel Costs per litre
ω	Vehicle Frequency
ω_p	Peak Vehicle Frequency

All Greek letters should be in regular order