

## Research & Development Committee

### Mission of R & D Committee:

The mission of Research and Development committee is to promote new understanding through research and innovation. The Research and Development committee envisions attaining top ranking in research universities across the globe.

### Members:

R&D Committee comprises of Chairman of R & D committee, Member Secretary, Two Research Nominees from each department and Student Coordinators. The list of committee members will be sent at the start of academic year to Dean of Institute for approval after due consideration.

### Objective:

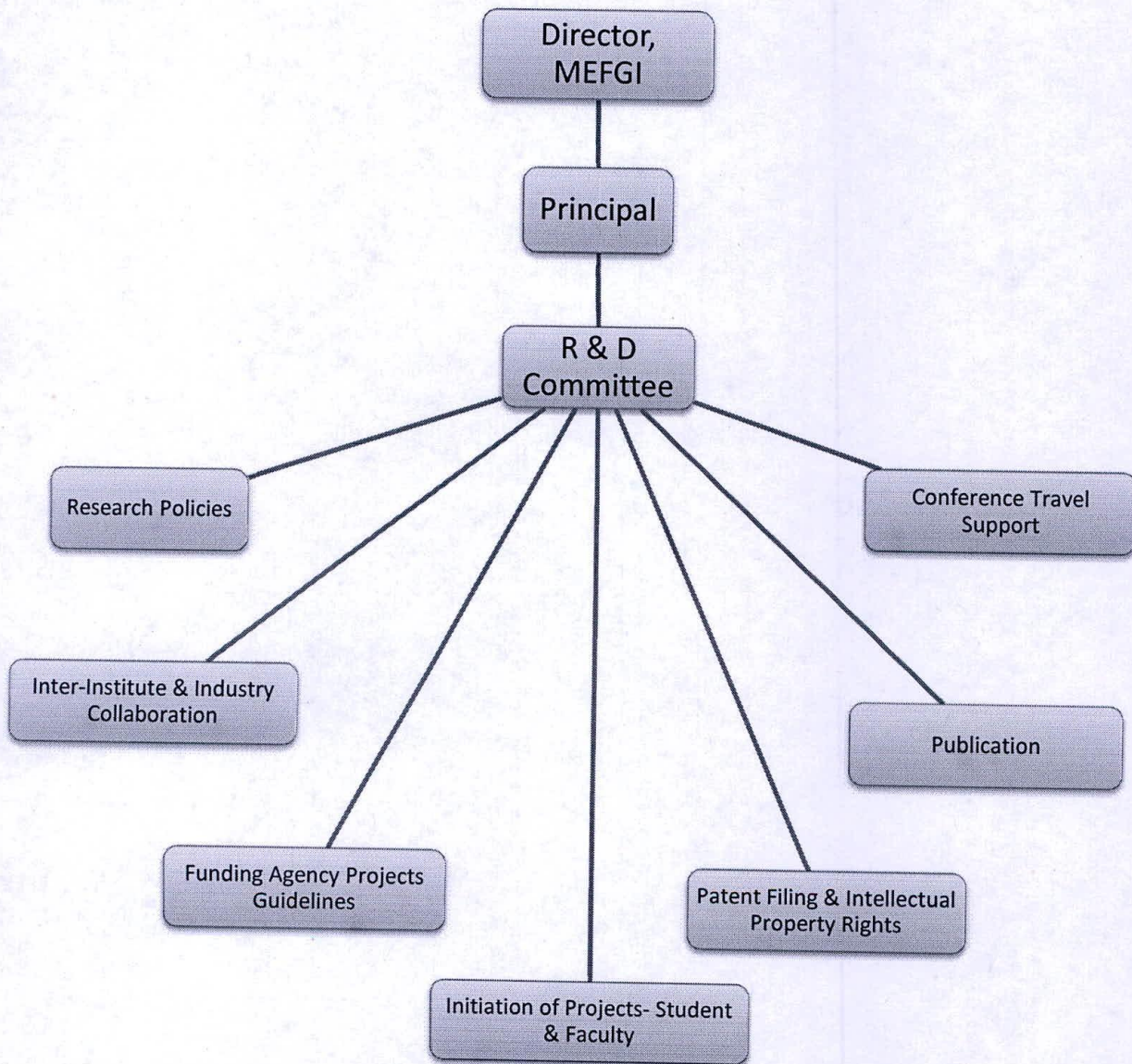
Main objective of Research and Development Committee is to promote, encourage and appraise R&D activities. The R&D committee carries out wide ranging activities such as promoting applied and basic research, technology development, establishing R&D labs in departments, honing and cultivating appropriate research skills in faculty by deputing for Ph.D., Conferences, Workshops and Short Term Training Programs, promoting faculties to submit research proposals for different funding agencies like All India Council for Technical Education, University Grants Commission, Department of Science & Technology, Indian Space Research Organization, Defense Research & Development Organization, Gujarat Council on Science & Technology etc.

The major responsibilities of R&D Cell and Research Committee to promote R&D activity are:

1. Promotion of new areas of Science and Technology with special emphasis on emerging areas,
2. Formulation of policies relating to different R&D activities,
3. Identification of potential for further research activity,
4. Identification of training needs to strengthen the R&D culture,
5. Designing Common forms and formats for easy administration
6. Manage current industrial collaboration and agreements,
7. Designing of simple and robust procedures for expenditure and overall operations,
8. Applying for Grants-in-aid from national, international and private funding agencies, Scientific Research Institutions, Scientific Associations and Bodies,
9. Undertaking or financially sponsoring scientific and technological surveys, research design and development, where necessary,
10. Promoting application of Science and Technology for weaker sections, women and other disadvantaged sections of Society as a part of services to community.
11. To support research facilities like research equipment, laboratories, access to online journals etc. to facilitate best research environment.







12. To establish collaborative relations with national, international and private research institutions.
13. To encourage the faculties and students to write research proposals, research papers
14. To felicitates and rewards faculties and students involved in obtaining research grants, sponsorship, consultancy projects, research publications like papers, articles, monograph, book chapter and books etc.
15. To encouraged faculties and students to file patents of the innovations







MARWADI EDUCATION FOUNDATION'S GROUP OF INSTITUTIONS  
RESEARCH AND DEVELOPMENT COMMITTEE

**Functions:**

Functions of R&D Committee are explained in organizational structure.

**List of Members:**

<b>Director, MEFGI</b>	<b>Chairman</b>
<b>Principal</b>	<b>Engineering/MBA/MCA</b>
<b>Shri Naresh Jadeja</b>	<b>Registrar</b>
Prof. Tapankumar A. Trivedi	Member Secretary – Research & Development
Dr. Nitul Dutta	CE
Dr Sarang Pande	Auto
Prof. Tarannum Bloch	IT
Dr.Shobhit Kumar Patel	EC
Dr.Rajendrakumar Patel	EC
Dr. Rajesh Patel	EE
Dr. Atal Bihari Harichandan	Mech
Dr. Tarak Vora	Civil
Prof. Chirag bhai Patel	Civil
Dr. Pankaj Pathak	ES
Prof. Ashish Gulabani	ES
Dr. Divyakanth Meva	MCA
Dr. Kapil Shrimal	MBA





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# MANUAL FOR RESEARCH & DEVELOPMENT COMMITTEE

## 1 INSTITUTIONAL R & D COMMITTEE FRAMEWORK

The Research and Development committee is formed to provide administrative and technical support for Funded Projects, Sponsored Research, Institutional Support and formation of Research & Development Laboratories.

Over the past few years, research has advanced from core research problems to interdisciplinary approach which requires national, international and inter-institutional support. The committee will facilitate communication with external funding agencies at national and international level. It will also promote institute-industry interaction for carrying out research and define role of Project Investigator. The committee will also guide patentee for financial assistance, procedures for patent filing and Intellectual Property Rights.

## 2 MEMBER SECRETARY, R & D COMMITTEE

The selection of Member Secretary of R & D committee will be done in consultation with all departments and will be sent for approval to Dean, MEFGI, Director-MEFGI and Board of Governors. The selection of Member Secretary will be for duration of 2 Years. Similarly, the R & D committee will be revised at the start of academic year and will be approved subsequently by competent authorities.

## 3 RESEARCH AND DEVELOPMENT POLICIES

All the sections hereafter will be termed as 'Research and Development Policies' of Marwadi Education Foundation's Group of Institutions.

## 4 INTER-INSTITUTE AND INDUSTRY COLLABORATIONS

The institute is actively involved in inter-institute and industrial collaborations to become forefront in the scientific and industrial research. The focus of the institute is to develop inter-institute relations for promoting core as well as interdisciplinary research in various fields. While carrying out such research, the faculty or researcher will observe IPR rights of the parent institute as well as collaborating institute. In any case, no person will violate these rights.

In case of inter-institute Research and Development Projects, the Principal Investigator or Co-Investigator will seek permission from competent authorities and inform the same to R & D committee. Any income generated from the Project will be shared between collaborating institutes as per institute wise sanctioned amount for the project.

MEFGI lays a strong emphasis on industrial interaction. The institute has not only given importance to investigation of problem to understand the need of industry but has given attention to emerging areas over the time. To promote industrial research collaborations, all faculties of



the institute will be encourage to visit one industry and work towards problem definition. The work carried out in this manner will be classified into following:

1. The problem definition is stated by industry and work is carried out by faculty/researcher in industry.
2. The problem definition is given by industry and the work is carried out by faculty/researcher in the institute.
3. The problem definition is submitted by faculty/researcher to the industry and the work is carried out by industry.

For each case, the institute and industry will publish or file patents on the joint basis.

## 5 RESEARCH & DEVELOPMENT PROJECTS

The R & D activity of the institute aims at taking up innovating work and challenges to address current and future need of industry and society. The Research and Development projects are not limited to students' thesis work but has a holistic approach. The institute believes that R & D projects will not only help faculties and researchers in carrying out innovative projects and publish; but will also boost manufacturing sector and solve critical issues faced by the society locally and globally.

The institute faculty, researcher or UG student will conduct research with various objectives ranging from addressing complex problems, developing products, investigation of critical issues or writing papers of high impact. The institute believes that in this manner, it can contribute immensely and fulfill the zeal of young engineers who are backbone of the MEFGI.

The faculties can take up Research & Development project of regional, national or global emphasis and work towards finding inimitable solution which works in effective manner. For such R & D projects, faculty himself/herself **will not charge** any consultation fees or honorarium to the sponsoring agency. The research & development project will be classified as follows:

1. Sponsored Projects
  - a. Major Research Projects – Amount => Rs. 10 lac
  - b. Minor Research Projects – Amount < Rs. 10 lac
2. Institute Sponsored Project
  - a. Major Research Project – Amount in Rs. 3 – 20 lac
  - b. Minor Research Project - Amount in Rs. < 3 lac

### 5.1 SPONSORED RESEARCH PROJECTS

For a sponsored research project, Principal Investigator and Co-Investigator will be the main channel between funding agency and institute. The role of PI will be to maintain necessary documents and produce it to funding agency as well as institute from time to time within prescribed limit. The institute will provide necessary support for the PI to carry out the work satisfactorily. To encourage faculties to write for such projects, the institute will provide following support:



- In order to present the problem definition in front of the funding committee from time to time, The Principal Investigator and/or Co PI will be eligible for travelling fares and accommodation as per MEFGI policy.
- The Principal Investigator will be eligible to apply for non-consumables or assets worth 10-20% of total project cost during project tenure. The PI and/or Co PI will propose for such non-consumables to R & D committee. The R & D committee will scrutinize the proposal and recommend to the Dean, MEFGI.

The sponsored research project can be Minor Research Project or Major Research Project as per the definition of sponsoring agency. A faculty can take up the funded project as individual or collaborative project.

In an individual project, both Principal Investigator and Co PI are full time faculties of MEFGI. In a collaborative project, full time Faculty/Research Scholar of MEFGI will work jointly with Investigator of India or abroad. The Faculty/researcher must mention separate budget for the institute and statement of work to be carried out in the institute premises.

At the time of application of sponsored project to funding agency, one copy should be forwarded to the R & D committee. Similarly, at the time of completion, one copy of completion report should be submitted to the committee.

The money received through grants is deposited in the account "**MEFGI - Faculty of Engineering**" and institute will not earn any *interest* on the amount deposited in the account. The institute will not charge any extra amount for **delay of funds** in either reimbursement or transfer of funds committed by funding agency towards MEFGI. In case of delay of funds, the institute will assist the PI and/or Co PI for smooth execution of the project. It is to be noted that during execution of the project, responsibility of non-consumables and consumables purchased lies with Project Investigator. Also, the responsibility of operation of project lies with PI and Co-PI.

## 5.2 INSTITUTE FUNDED PROJECT – INITIATION GRANT FOR FACULTY

The institute believes in the mantra of Prosperity for Each stake-holder. It is obvious that new faculty with reasonable experience and insufficient research to his/her credit may not necessarily get sufficient funds from funding agencies. The same faculty may submit subsequent proposal to the funding agency after having exposure to the research environment. To encourage aptitude towards research, faculties are encouraged to write for project proposal which will be considered as **seed money** for development of faculty. There will be two type of project proposals:

1. Minor Research Project
2. Major Research Project

### 5.2.1 MINOR RESEARCH PROJECT

The Minor Research Project proposal will be of the duration of 1-2 Years. For such a project, the total amount of grant is limited to Rs. 3 lac. A faculty seeking the Minor Research Project grant should submit a proposal to R & D committee. The committee will scrutinize the proposal in terms of technical outcomes, impact on society and effect on student community. The institute reserves right to decide on the total no. of Minor Research Project approval for the academic year.



It is expected that at least one Minor Research Project proposal will be received from each department for each academic year. In case of multiple proposals from the same department, institute may seek review from panel of external experts. The proposal with highest merits will be approved.

The Principal Investigator and Co-PI will submit the proposal in proforma mentioned as per Appendix-A. The Principal Investigator and/or Co-PI will present the review of project at the end of every academic year in front of R & D committee. Based on the status of project, subsequent amount will be disbursed for the next academic year. It is mandatory to submit audited report of the grant utilized. The **Utilization Certificate** from certified auditor must be attached with the status report. By the end of the project, PI and Co-PI must publish at least one Paper/Patent related to the work carried out in the Journal of Repute . PI and Co-PI will receive **completion certificate** only after **acceptance of such article**.

Since the project will be carried out by faculty, no salaries or fellowship will be offered in the project.

#### 5.2.2 MAJOR RESEARCH PROJECT

The project proposal will excellent merit and clear emphasis on the outcome will be approved as Major Research Project. For the project approval and execution, all the guidelines of Minor Research Project in Section 5.2.1 will be observed.

In case of significant outcome and excellent contributions, the Minor Research Project can be converted to Major Research Project. The Project Investigator should submit request to upscale the project to Major Research Project to the committee.

#### 5.3 INSTITUTE FUNDED PROJECT – INITIATION GRANT FOR STUDENT

To inculcate the research aptitude and promote excellent ideas of students, institute is willing to fund five project of merit from each department in every academic year.

In case of student project, the project supervisor will act as Principal Investigator whereas the student(s) will act as Co-Investigator. All the guidelines mentioned in section 5.2.1 will be observed.

The Project Supervisor will ensure that one closure report of project is submitted to the committee with the status of the project. However, the condition of publication is relaxed for the student project.

### 6 PATENT FILING AND INTELLECTUAL PROPERTY RIGHTS

It is expected that with the promotion of research and development, highly motivated ideas and innovations in the form of commercial designs, devices, processes, business models, copyrights, and industrial designs with significant outcomes and commercial value will be generated. In such a case, rights of an intellectual must be maintained so that the idea cannot be commercially exploited without consent of researcher or innovator. The institute will encourage such innovators and will help the innovator in the form of patent, copyrights, trademarks or trade secrets in the form of financial or in other ways possible. For the case where such application is filed by the existing student, innovator or faculty of the institute, the innovation will be jointly



registered by concerned individual and institute. The institute will support such efforts which ultimately yield financial gains in order to support research and development activities of the institute. The financial gains will be shared between institute and innovator/faculty/student on the basis of their contributions.

### 6.1. PATENT FILING PROCEDURE

- a. The prospective patentee will file the application for patent registration to the Member Secretary, MEFGI through concerned head of department. The patentee shall have right not disclose the sensitive matter. However, all relevant information must be mentioned in the application.
- b. The following should be mentioned in the application:
  - o Name of Patentee(s) who have developed the innovative idea
  - o Detailed specification and possible area for which it is filed
  - o Detailed information if there will be commercial purpose
  - o List of industries, organization which are interested for commercial purpose
  - o In case of commercial purpose of the patent, type of agreement made between the patentee and beneficiary.
  - o The extent to which facilities of institute are used
- c. The duly signed application will be submitted with above information for approval of R & D committee from where it will be recommended to The Chairman of R & D committee
- d. The institute will bear the patent fees for first five years. In case of financial gains, the institute may extend support for next five year. For no-gains during first five years, the institute will continue providing financial assistance for next five years on 50% basis.
- e. It will be prime duty of R & D committee members not to disclose any information related to the submitted patent details to any organization or individual which may violate intellectual property rights or result in financial losses.

All details and subsequent approval for the R & D committee, will be reported to The Director of the institute at the end of each academic year.

### 6.2 COPYRIGHTS AND TRADE MARKS

A copyrights protects the expression of ideas. It is expected that a work to be copyrighted is original expression of ideas and should be expression in material form. The institute understand the freedom of expression of ideas and thus in the work to be copyrighted, author is principally independent for the decision related to copyrights. If copyrights are owned by researcher/faculty/student of the institute and it involves monetary benefits, the amount of revenue generated shall be divided based on the infrastructure or facility used by the intellectual. However, in no case the revenue share of institute shall go above 50% of the total net revenue generated. Similar guidelines will be observed for Trade Marks, Trade Secrets in the institute.

The application procedure for copyrights, trade marks and trade secrets will be similar to application procedure for Patents as mentioned in 6.4.1. (a), (b) and (c). All intellectual property rights should abide by the Indian Patent Act, 1970, Design Act, 2000, Trade Mark Act, 1999 and The Copyright Act, 1957.



## 7 PUBLICATIONS

The institute will promote the high quality work with significant outcomes. The institute envisions best place in the country for quality work with great impact of society. To achieve this, two areas will have prime focus in Research and Development Committee. The first being the level of technical writing by researcher (faculty/student) of the institute. It is prime duty of R & D committee to ensure that the research publication are do not fall under non peer-review category or violates copyrights of the individual involved with the institute or elsewhere in the world. At the same time, any delay in the submission due to the procedure associated with it can significantly affect author's chance for timely publication. Following policies will be implemented by the institute:

- The individual or group of authors who belong to the institute can submit their research article/ review article/ letter to any journal without consent of the R & D committee.
- In such a case, author(s) must submit the copy of plagiarism check by institute or journal within 15 days of submission. Authors can also take prior approval from the R & D committee.
- The approval can be taken in any form such as printed or electronic media. As and when required, the approval must be submitted to R & D members.
- In case violation of any copyrights or idea or work is brought to the notice of institute, the researcher/faculty/student will be barred from any kind of further financial assistance for research related activity.
- The publication cost in the form of article processing charges or over-paging charges (journal charging only for over paging), shall be borne by institute provided that the publication is recommended by the R & D committee and Internal Quality Assurance Cell. In case of open access article, the prior approval must be taken by committees before paying article processing fees.
- The amount of financial assistance for publication charges will be Rs. 50,000/- per year per faculty provided that the provision is made in the departmental budget is made for the same.

For amount above this, rest of the charges shall be borne by the author(s). This upper limit excludes conference and travel support of the faculty

In order to become eligible for financial assistance, the author(s)' affiliation must be mentioned at suitable place. In case the published paper is outcome of the Minor/Major Research Project carried out by researcher, it is preferable that grant no. along with financial assistance provided by the researcher is suitably acknowledged.

## 8 CONFERENCE TRAVEL SUPPORT

To demonstrate the skills and share ideas among world community, the conference is considered to be a good platform. In addition to this, publication of the work in reputed conferences can increase the possibility of dissemination of work among larger fraternity through suitable journal or archives. All the permanent faculty members of MEFGI are eligible for National as well



International conference travel support. The policy for conference travel support is mentioned below:

- In the case of national conference, faculty will be entitled to receive reimbursement of conference fees in addition to travelling and lodging expenses as per travelling entitlement and reimbursement policy of the MEFGL.
- In the case of international conference, faculty will be entitled to receive conference registration fees and travelling expenditure for attending the conference. The maximum amount for the travel support should not exceed Rs. 1,00,000/- for Assistant Professor, Rs. 1,25,000/- for Associate Professor/HODs and Rs. 1,50,000/- for Professor/Dean/Director.
- The total cumulative support for 3 years should not exceed Rs. 3.0 lac for all cadres. For research outcome with excellent merit, the upper limit of the travel support can be increased subjected to decision taken by The Chairman of R & D committee, The Director and The Chairman, MEFGL.
- In order to obtain the conference travel support, the work to be published must be approved by R & D committee and IQAC cell. The faculty should also submit original manuscript and review comments given by conference committee. The IQAC cell will decide the final amount of assistance based on the merit of the paper.
- For Internal Conference Travel Support, the application form along with all relevant documents must be submitted before 45 days of the conference dates. The 'travelling expenditure' will be considered as the amount for minimum fare applicable to direct flight between two terminals.

The faculty who has availed conference travel support must submit a brief report of the program to R & D committee attended within seven days of the last date of the conference.



## 9 APPENDIX – A

- Title of Project
- Project Description
- Total Amount of Project
- Technical Background of Project
- Research Statement
- Objectives of the Project
- Design of Project alongwith Pert Chart
- Relevance to Society
- Relevance to Student Community
- Possible Outcomes of Society

While proposing for project following heads will be clearly mentioned in the Project Proposal.

**TABLE 1 BUDGET ESTIMATE SUMMARY**

ITEM	BUDGET			TOTAL AMOUNT
<b>A. Non-Recurring</b>				
Permanent Equipment	Year I	Year II		
Other				
<b>B. Recurring</b>				
Consumables	Year I	Year II		
Travel				
Contingency				

**TABLE 2 BUDGET FOR PERMANENT EQUIPMENT**

ITEM	BUDGET			TOTAL AMOUNT
	Year I	Year II		
Specification and description of item				

**TABLE 3 BUDGET FOR OTHER ITEMS**

ITEM	BUDGET			TOTAL AMOUNT
	Year I	Year II		
Description of item				





MARWADI EDUCATION FOUNDATION'S GROUP OF INSTITUTIONS  
RESEARCH AND DEVELOPMENT COMMITTEE

**TABLE 4 BUDGET FOR CONSUMABLES**

ITEM	BUDGET			TOTAL AMOUNT
	Year I	Year II		
Description of consumables				

**TABLE 5 DESCRIPTION OF TRAVEL**

ITEM	BUDGET			TOTAL AMOUNT
	Year I	Year II		
Travel*				

\*- Travel does not include conference/seminar/workshop travel grant

**TABLE 6 CONTINGENCY**

ITEM	BUDGET			TOTAL AMOUNT
	Year I	Year II		
Contingency description				