

GOVERNMENT OF RAJASTHAN
DEPARTMENT OF SCIENCE & TECHNOLOGY

**GUIDELINES & FORMAT FOR SUBMISSION OF RESEARCH &
DEVELOPMENT PROJECT FOR FINANCIAL SUPPORT FROM DST
RAJASTHAN**

For encouraging application oriented research and transfer of appropriate technology to the rural masses, lot of emphasis is being given by the Department for R&D activities. Guideline for submission of R&D projects including 'Terms and Conditions' for the financial assistance is annexed herewith for inviting proposals of the research projects from Government Departments, Autonomous bodies, Educational Institutions, including state Medical and Engineering Colleges, Universities and Voluntary Organizations. The broad themes for which these R&D Projects invited are as under: -

1. Application of Science and Technology for the upliftment of rural population of the State.
2. Attempts to solve shortage of energy, energy consumption pattern of the rural and urban areas, saving and conservation of energy, use of solar energy for lighting, solar ponds, energy penetration and study of impacts.
3. Development of energy saving agricultural tools and equipments, food processing and storage methods, moisture conservation, new methods of preservation of fruits, control of pests and diseases of fruits and crops.
4. Development of rural technology by creating awareness and dissemination of new technologies.
5. Studies on guieaworm, flurosis, nutritional blindness and other common diseases prevailing in rural areas of the State and their preventive methods and dissemination of knowledge.
6. Study of common animal diseases, their preventive methods and dissemination of knowledge; improved dairy and poultry technologies.
7. Problems of environmental pollution in industrial areas of the State.
8. Drinking water problems of the State and measures to overcome.
9. Development of low cost housing material and dissemination of the information among the users.
10. Science and Technology for women in reducing drudgery and health hazards in day to day activities and promoting employment generating activities for them.
11. Impact of deforestation of the catchment areas of big reservoirs.

12. Development of ground water resources.
13. Study of mineral wealth and their use for the State mining and their impact on eco-system.

Kindly submit R&D Project Proposal in prescribed format in five copies through Head of the Institution to :-

Director
Department of Science & Technology,
Govt. of Rajasthan,
506, 4th Floor, Mini Secretariat,
Bani Park,
Jaipur-302016.

For further information, kindly contact Project Officer, R&D at

Phone : 2202307 (0)
E-mail : director@rajdst.gov.in
Fax : 41-2201248

PART 'A'

GENERAL INFORMATION AND INSTRUCTIONS FOR SUBMITTING RESEARCH PROPOSALS

1. On behalf of State Council of Science and Technology, the Department initiate, support, promote and coordinate such research and development projects and programmes (including demonstration projects) which are likely to be relevant to the achievement of specific objectives and help in fruitful exploitation of the natural resources of the State, through various institutions, organisations and agencies in the State. The projects will be entertained which are based on the following thrust areas :-
 - (i) Related to utilisation of Science and Technology for achieving the socio-economy objectives of the State and in particular, the objectives of tackling the problems of backwardness, unemployment and poverty in the rural areas, and among the weaker section of the society, such as scheduled Caste, Scheduled Tribes, Landless Labour, Artisans, Small and Marginal Farmers and Women.
 - (ii) Related to the application of Science and Technology for the upliftment of Rural poor.
 - (iii) Attempt to solve the problems of shortage of energy through the application of new technologies available in the field like non-conventional energy sources.
 - (iv) Catalyst in creating scientific and technological awareness in the State.
 - (v) Related to agriculture, basic science, life science, energy, industry, electronics and applied engineering and also having direct relevance to the economic and social development in the State.
 - (vi) Related to the transfer of technology from National level research institutions to the remotest area of the State.

The above set criteria is only indicative of the kind and quality research proposals expected by the Department. Proposals pertaining to purely survey oriented work, academic studies will not be considered for extending financial assistance.

2. The proposals should be prepared and submitted strictly according to the format prescribed by the Department.
3. Please read explanatory notes and detailed instructions carefully for completing each section of prescribed format while preparing the proposal.
4. Copies of the proposal and other required document to be sent in one lot through proper channel to :
The Director,
Department of Science and Technology
506, 4th Floor, Mini Secretariat,
Bani Park, Jaipur.

5. All the research proposals will be acknowledged and registration number will be allotted by the Department and in future all the communications/enquiry about the project will be made through this registration no. and the title of the project only.
6. **Components of Research Grant** :- Grant for a research project will be provided to the concerning organisation, institution or an agency for the use of principal investigator to cover the following :-
 - (i) Appointment of research associates/fellows and technical supporting staff e.g. technicians, mechanics, etc. and payments of salaries and cost of service benefits to them. The salaries will be paid as consolidated amounts either in regular monthly installments or as lump sum payments. The Principal Investigator who is employed and already receiving a salary will not be paid out of this assistance.
 - (ii) Acquisition of ancillary equipment and expendable items, laboratory supplies.
 - (iii) Payment of honoraria or part time allowances for services utilised in the scheme (e.g. typists, stenographers, accounts clerk, laboratory assistants etc.)
 - (iv) Any other expenditure which the Department of Science & Technology considers appropriate, depending upon the requirements of a specific proposal.
7. **Approval of Research Projects** :-
 - (i) Projects will be sanctioned for a specified period (Maximum three years), total cost and yearwise breakup will be as approved by the Government. The authorities of the institution where the research work is to be carried out would be responsible for administration of the scheme and maintenance of accounts. The Principal Investigator will arrange with the institution to receive and make payments on his behalf. The grant shall be exclusively utilised for the purpose for which it is sanctioned.
 - (ii) All accounts maintained by the institutions will be subjected to audit by the institution's auditor. On termination of the project, the accounts duly audited by the auditors shall be submitted and the unspent balance if any, shall be remitted back to the Department.
 - (iii) The project will become operative with effect from the date on which grant is received by the institution. The exact date of commencement of work is to be communicated to the Department.
 - (iv) The Principal Investigator shall submit three copies of the quarterly progress report of the work on the project. In addition the Department may designate scientists/ specialists to visit the institution periodically and may organise monitoring workshop for reviewing the progress of the work and for suggesting measures to ensure early realization of the objective of the project. On completion of the project, 5 copies of a consolidated report of the work done on the project should be submitted to Department.

- (v) Projects will be normally sanctioned to institutions which have most of the essential facilities in the form of equipment for the type of research work to be undertaken. The expenditure on purchase of ancillaries to the equipments, travel and contingencies may be incurred by the Principal Investigator as provided in the budget sanctioned for the project.
- (vi) The selection and appointment of different kind of staff for the project may be made the Principal Investigator of the research proeject for the period not exceeding the sanctioned duration of the project. In other cases, the institution should be kept informed about it.
- (vii) Investigator wishing to publish papers based on research work done under S&T Research Projects should acknowledge the financial support received from the Department.
- (viii) The State Department of S&T reserves the right to terminate the grant at any stage if convinced that the grant has not been properly utilised or appropriate progress is not being made.
8. The emoluments to the Research Staff engaged in the projects sanctioned by the Department of Science & Technology, Govt. of Rajasthan are as under :

Eligibility	JRF	JRF/SRF
	I/II Year	III Year
a) Post graduate degree in Scientific disciplines, other than Medical and Engineering.	@ Rs. 2700/- p.m.	@ Rs. 3000/- p.m.
b) Fields (Medical/ Engineering)		
i) MBBS with one year intership and	@ Rs. 3600/- p.m.	@ Rs. 3800/- p.m.
ii) Post graduate degree in Engineering/Technology	@ Rs. 3600/- p.m.	@ Rs. 3800/- p.m.

- (ix) If the investigator to whom a grant has been sanctioned, leaves the institution where the project is based, the investigator should submit a complete and detailed report of the work done by him or the project till the date of his relieving .
- (x) All equipment and stores purchased out of the grant would remain with the institution concerned unless otherwise directed by the Department.

PART ‘B’ : PRESCRIBED FORMAT

1. Important Note on Project Formulation :

- (a) Please confine your project to only a few specific aspects of problem, which can be studied in depth in a period of three years. To identify the specific consider/proceed along the following lines.
 - (i) Having decided on a broad topic of research review the National Status.
 - (ii) Identify critical gap areas where your expertise can effectively contribute.
 - (iii) From these areas, identify one or two specific aspects which can be studied in depth through a three years research project.
- (b) While writing the proposals, please ensure that scientific and technical details are clearly spelt out. Avoid generalities.
- (c) Proposals with broad objectives not achievable in three years, written without specific details would be viewed unfavourably.

2. Instructions for Filling up the performa :

- (i) Please use paper approximately of A4 size.
- (ii) Please type as per the layout given in the formats.
- (iii) Please do not skip reproduction of any section even if the answer is “nil”.

Please read additional instructions given on the following pages before filling the corresponding section of the format.

3. DOCUMENTS/ ENCLOSURES REQUIRED WITH THE PROPOSAL

Item	Head of the Institution	Number of copies	Number of copies
(a)	Endorsement from the (one letter head)		One

(b)	Certificate from investigator(s)	One
(c)	Details of the proposals from the section 101 to 145 (stitched)	Fifteen
(d)	Name and address of experts/institutions who may be Interested in the subject outcome of the project (circulation list)	Two
(e)	Additional copies of section 134 to facilitate circulation	Five

4. **The Principal Institution assumes financial and other administrative responsibilities of the project.**
5. **In case of multi institutional project the Principal Investigator (JPI) has to obtain formal agreement from the collaborating institution/scientists.**
6. **International travel is not permissible under the project.**
7. **The manpower recruited for the project should be paid as per the rules of the Institute and guidelines of the Government of Rajasthan.**
8. **It is the policy of DST to maximize the use of an equipment. In this light, Investigator shall permit the use of spare or idel capacities of equipment procured under the project by bonafied users.**
9. **The proposals are scrutinised by experts in the field and after a peer review State Council would take the decision.**

3(a) ENDORSEMENT FROM THE HEAD OF THE INSTITUTION
(To be given on letter head)

Project Title : _____

- (i) Certified that the Institute welcomes participation of Shri/Ms As the Principal Investigator and Shri/Ms as the Principal Co-Investigator for project and that in the unforeseen event of discontinuance by the Principal Investigator, the Principal Co-Investigator will assume the responsibility of the fruitful completion of the project (with due intimation to Department of Science and Technology / Government of Rajasthan, Jaipur.)
- (ii) Certified that the equipment and other basic facilities as enumerated in Section 142 and such other administrative facilities as per terms and conditions of the grant will be extended to the investigator (s) throughout the duration of the project.
- (iii) Institute assumes to undertake the financial and other management responsibilities of the project.

Name and Signature of
Head of Institution.

Date
Date

- In regard to the research proposals emanating from scientific institutions/laboratories under various scientific department, the Head of Institution is required to provide a justification indicating clearly whether the research proposal falls in line with the normal research activities of the institution or not, and if not, the scientific reasons which merit its consideration by Department of Science and Technology / Government of Rajasthan, Jaipur.

3 (b) CERTIFICATE FROM THE INVESTIGATOR

Project Title : _____

- (i) I/We agree to abide by the terms and conditions of the State Council for Science and Technology / Department of Science and Technology/ Government of Rajasthan.
- (ii) I/We did not submitted the project proposal elsewhere for financial support.
- (iii) I/We have explored and ensured that equipment and basic facilities (enumerated in Section 142) will actually be available as and when required for the purpose of the projects. I/We shall not request financial support under this project for procurement of these items.
- (iv) I/We have enclosed the following documents :

Item	Number of copies
- Endorsement from the Head of Institution (on letter head)	One
- (This) certificate from Investigator(s)	One
- Details of the proposal from Section 101 to 145(stitched)	Five
- Name and address of experts Institution interested in The subject/outcome (of Principal Investigator)	Two
- Additional copies of Section 134 to facilitate circulation	Five

Name & Signature of Investigator (s).

Date

Place

EXPLANATORY NOTE FOR FILLING THE FORMAT

Section 101 : Project Title

Project title should be within 150 characters (30 Characters in each line). A title “Investigations fo the magnetic properties of certain compounds of Transition metals with Rare Earths” may be sharpened to “Magnetic Properties of (Rare Earths) (transition Metals) Compounds” (underline the key words).

Section 102 and 103 : Board Subject :

Please mark only one of the boxes. This classification is meant to convey the emphasis of the research work. In case it has equal emphasis on more than one discipline, it may be put under inter disciplinary category.

Section 104 : Duration :

Expected total duration of the project may be expressed in months. Proposed duration should normally not exceed 36 months.

Section 105 : Total cost :

Give total cost of the project in rupees.

Section 106 to 119 : Investigator and Principal Institution :

Indicate the status (Government/autonomous/voluntary organisation / Private, etc.) of the Institution. In case of registered society a bond has to be executed after approval of the proposal.

While writing names write the surname first. Give date of Birth in date, month and year format each consisting of 2 digits (dd/mm/yy).

Section 120 to 133 : Collaborating Investigators/ Institution :

In case a project is to be executed by more than one Institution (which is welcomed) and which requires regular inputs from other Scientists, the names of collaborating institutions and scientists are to be recorded.

Section 134 : Project Summary :

Use separate sheet for sections 134 & 135 Give Project Title, PI name, Name of Institutions involved before writing the summary.

Section 135 : Subject Keywords :

Please suggest not more than ten keywords that best describe the project. This is to facilitate systematic information storage and retrieval. Kindly underline these keywords wherever used in projects summary.

Section 137 (a) : Origin of the proposal :

Identify the stimulate which prompted preparations and submission of the project proposal to the DST. The source of stimuli could be the National Five Year Plan (S&T Chapter) State-of-ar-report or other reports published by the DST proceedings of a special workshop. Seminar announcements by DST on Thrust Area Programmes an earlier project etc., in all such cases. Give specific details so that the source is clearly identified. If the project has no such origin please state so.

Section 137 (b) : Definiton of the Problem :

Give precise technical statement of only those problems which the project is expected to cover within the specified duration (normally upto 3 years).

Section 137 © : Objective :

Instead of an essay, it is suggested that the objectives be spelled out point by point in telegraphic language keeping in view the definition of the problem outlined in. Section 137(b).

Section 237 (d) : Work Plan :

In this section the entire project activity is to be broken down to specific work elements in consonance with the objectives and methodology defined in the earlier sections. While doing so equal emphasis should be given to :

- (a) Technical work elements such as designing the experiment model making observations/ calculations, etc.
- (b) Administrative work elements e.g. selection of equipment and obtaining quotations, obtaining certificates like NMI, CDE, etc. recruitment of staff etc.

Section 137 (e) : Methodology :

It is essential that from this statement the other experts in the field should get a clear understanding of the distinct from data sample collection activities and routine activities. Further, the description should indicate precisely how the stated objectives will be achieved. Discuss different methods of approach in order of priority.

Section 137(f) : Time Schedule:

On the basis of work elements identified earlier, the time schedule should be drawn. Here specific indications of milestones would be worth while. These milestones will help in periodic evaluation of the progress of the project. It is once again cleared here that lead time for creation of infrastructural facilities be computed on realistic basis.

Please also append to bar diagram and mark it as section 410.

Section 138 : Utilisation of research results:

It is necessary to widely disseminate the research results and to facilitate their use by other teaching and research communities and industries. The intent of this section is to get an idea of how the interaction between researchers and potential users of research results could possibly be catalyzed, stimulated and maintained.

In this light, therefore a utilization plan is collected. This may start with identification of the user community individual and institutions. The interaction

could be promoted in several ways. For example, selected members of the community may be invited to periodic presentation by the investigators for their expert guidance. The investigators may propose to organize workshops on the subject or to present the results in meetings of professional associations of industries, national seminars and the like. Circulation of interim reports to wider audience could be another mechanism. A research leading to development of a process which could possibly be commercialized should have active involvement of agencies like the National Research Development Corporation of India from the inception of the project. Please list appropriate activities with brief description.

Section 140 : Budget :

Summary of the budget may be prepared after filling on Sections 140 to 140.7 give realistic estimates of costs of different items involved. While doing so, please ensure that all the constraints have been taken note of and time of different activities properly estimated. All entries should match with those given in Section 310 to 350 Justification for each item is to be given in Section following it i.e.e. 311, 321, 331, 341 & 351.

All costs are to be expressed in rupees only.

Section 140.1 : Budget-manpower :

While major part of the project work is to be carried out by the Principal Investigator and Co-Investigators, some additional scientific and technical personnel may be asked for working full time on the project. Please asses your additional requirements carefully taking into account the level of personnel required and their likely availability for working on the project. You may like to select your requirement from amongst the following categories of personnel.

- (a) Personnel with two to three years of research experience.
- (b) Fresh post-graduates or equivalent.
- (c) Technical Staff.
- (d) Secretariat Staff.

Please check rules and regulations of your institution for salaries payable to the required category of personnel for working out the budget.

Salaries payable are to be expressed in lump sum. Full time personnel are those who would be recruited fresh or employed from existing staff of the institute full time for the project (an their salaries/wages debited to project account.) people who are already in position and whose honorarium/job rate payment/ overtime allowance/part of salary is to be debited to project account may be classified under part-time personnel. For both categories of personnel, the extent of involvement, specially for computation of budget estimates may be expressed in terms of man months per year.

Please prepare the list in descending order of salary. Personnel with same designation but with different salary are to be shown separately.

Section 140.2 : Justification for salaries & Wages :

Justification for number and level of staff to be recruited, their year of deployments and comments on whether personnel from other institutions will be deployed on deputation basis.

Section 140.7 : Budget for other costs

Some projects may have special requirements not covered under sections 140.1 to 140.5. Cost for such requirements are to be indicated in this section specifying the item under a & b.

Contingencies are meant to cover incidental and other miscellaneous expenditure.

Section 140.8 : Justification for other costs

Please specify the special requirements. These requirements could be of Equipments computer, time, payments for using specialised instructions facilities etc. The basis of calculating the costs should be clearly state.

Section 141 : Time Schedules – bar diagram :

The bar diagram should have work elements activities as row and time in the column. The suggested time interval is three months. After approval of proposal PI will have to submit a PERT Chart. The purpose of the PERT Chart is to help in evaluation and monitoring.

Section 142 : Existing Facilities :

Basic infrastructural facilities and equipments that would be extended by the institute to the project should be recorded.

Please make sure that these facilities and equipments will actually be available during execution of the project.

In part 142.2' please list all the available equipment and accessories which will be made use of in executing the project. Please note that this list is to cover equipment and accessories under these categories.

- (a) Equipments within your reserch group.
- (b) Equipment in your department.
- (c) Equipments in other department or centers in which your institutions.

The region including Regional Sophisticated Instrumentation Centre.

In case equipment required for the project exists (a), (b) or (c) but cannot be used for project work, give reasons under the remarks column.

Section 143 : Biodata of Investigators. :

Biodata of the Principal Investigator and all other Investigators who are already in position and available for the project are to be given here.

While providing the list of publications include (name of Journal, Publisher, etc.)

Section numbering should start with 143 for the PI and followed by 143.1, 143.2 etc. for other investigators.

Section 144 : Other research project with investigators :

Summary details of the project (completed, on going or proposed) with different investigators may be given. These should also include DST Project. Each project should come on a separate sheet.