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CHAPTER 2: RESEARCH & DEVELOPMENT POLICY

2.1 Introduction

In order to develop NUST into a true centre of excellence, it is imperative that apart from maintaining high standards in teaching, research is rigorously pursued and suitably rewarded. The R&D output of NUST is in line with national needs and contributes towards socio-economic growth of the country. The Directorate of Research established at NUST is acting as a focal point for providing guidance and support to the constituent institutions in all activities related to research & development. As such, the Directorate has a significant role to play towards achieving NUST vision. Therefore, the mission of this Directorate is to facilitate and co- ordinate research activities of NUST constituent institutions and to liaise with other national as well as international academics, research and industrial organizations to facilitate research at NUST. Directorate of Research is an integral part of Office of Research, Innovation and Commercialization (ORIC); eco-system, headed by Pro-Rector (RIC).

2.2 Objectives

The Directorate of Research has been established with special focus on the following objectives:

a. To establish a culture so that research remains an integral component of academic activities at NUST.

b. To ensure that high quality research of direct relevance to Pakistan's needs, pertaining to both civil and defence sectors, is pursued in NUST constituent institutions.

c. To facilitate establishment of linkages between NUST constituent institutions and industry both in the public and private sectors and to direct research at NUST so as to cater for local industry requirements.

d. To monitor and co-ordinate research activities within NUST constituent institutions as well as for research jointly undertaken by NUST, Govt. Agencies and Private

Sector.

e. Proactively provide information about research funding opportunities to faculty and students.

f. To encourage and assist NUST researchers in obtaining research grants from the Public/Private Sector and Foreign Agencies.

g. Facilitate timely completion of funded research and development projects.

h. Maintain efficient and productive communication channels with funding agencies.

i. To facilitate and support NUST researchers for publication and presentation of their research work through participation in such activities.

2.3 Key stakeholders of Research and Development (R&D) process and policy are:

a. NUST faculty and researchers

b. NUST joint (partner)researchers and developers

c. NUST students

d. Industrial partners

e. National/International Funding agencies

f. Ministry of Science and Technology, Higher Education commission (HEC) and other relevant government entities

g. Offices of Research, Innovation and Commercialization (RIC)

2.4 Key Challenges Expected in Achieving Objectives

2.4.1 Create Balance between Teaching and R&D

The call for more University-Industry collaboration is well grounded amid trends toward intensifying global competition and the drive towards a knowledge-based economy. But these changes should not take place at the expense of the fundamental mission of universities. It remains that universities must pursue several different, conflicting goals. They must still fulfill their primary mission to teach students, and this goal cannot be compromised. Teaching responsibilities, frequent and effective evaluation of students' learning and providing nurturing feedback to students is an extremely

tedious and time consuming activity. Faculty members find it challenging to create a balance between their teaching and R&D activities.

2.4.2 Alignment of R&D with Industry's Needs

Industry expects complete and integrated solutions to their key problems which require minimum change in their infrastructure and processes & are available in minimum time. Technologies developed at universities are the brain child of an expert in a particular domain. There is lack of experts who can give industry, the complete integrated solution after analyzing problems faced by industry. Technologies developed at universities are the outcome of some research which most of the times is not aligned with the industrial problems or needs. When such inventions are made, either they do not have market potential at all or they have entered the maturity and decline stage. Succinct information about key problems, bottlenecks and rate limiting factors faced by industry is not available to faculty. Industry and academia often use incompatible terminology which further accentuates the problem. Above all, there is also a lack of confidence between academia and industry in Pakistan.

2.4.3 Information regarding Funding Opportunities

Funding for research and development is available internationally. Faculty members find it challenging to invest time in searching for funding opportunities most suitable for their R&D activities. Very often funding opportunities mandate international collaboration between academic institutions or collaboration with industry. Information related to such collaborations also is not accessible to faculty and researchers easily.

2.4.4 Incentives for Faculty

Research and development activities demand that faculty members maintain deep level of understanding of latest developments in their field of expertise. This is a very time consuming and challenging task. Today's globally connected knowledge based economies are creating knowledge at an unprecedented pace. It is rather convenient to teach courses where the material taught in a class does not change at the same pace from one semester to the other. Faculty needs significant financial as well as career growth incentives to pursue innovation centric research and development. It is important to note that time spent by a faculty member to learn latest development in their field of specialization also significantly improves quality of their course content.

2.4.5 Incentives for Industry

Frequently there is lack of industrial willingness to incorporate indigenous solution in high cost machinery and equipment developed at local universities. Typically the risks involved in incorporating newly developed technology outweigh its benefits, especially when the cost benefit analysis is done based on current sunken infrastructure cost and projected revenue models.

2.4.6 Stretched Funding Process

At times the funding processes for research and development of technology are so stretched out that a research faculty is unable to create a team of researchers in a timely manner. Very often other competing research groups may have solved the problem hence decreasing the importance of proposed research. Time spent on developing the proposal looses its value.

2.4.7 Pool of Experts

We face critical shortage of experienced professionals who are capable of handling complex, multidisciplinary and meticulous work associated with University-Industry collaborations. There is an acute need for personnel with a good deal of business expertise who can handle the administrative and business work associated with University-Industry collaboration and research & development. Such personnel should have an understanding of science & engineering and knowledge of the law. These individuals must also understand how two different communities, the academic and the business, operate. The challenge is to have the pool of experts from different fields to analyze the diverse technologies and their commercial potential.

2.5 Strategies

a. Support faculty in balancing its responsibility of teaching and industrial problem solving by proactively promoting use of technology.

b. Coordinate development and efficient execution of HR polices that give direct financial benefits, promotions and salary increases based on attracting R&D funding and commercialization of resulting technology.

c. Leverage web technologies, industry links, Corporate Advisory Council, NUST alumni network, funding agencies' websites, focused conferences and workshops and other resources to facilitate collection and dissemination of information related to:

   i. Key national scale problems.
   ii. Local industry's needs.
   iii. Sources of funding for R&D.

d. Provide training, consulting and internal proposal evaluation services to faculty to develop effective proposals. Arrange bridge financing for proposals that go through this process.

e. Create a pool of experts to guide process needed to support implementation of these strategies. Corporate Advisory Council subcommittees can be leveraged to achieve this objective.

2.6 Methodology

2.6.1 Leverage Technology to Support Teaching Activities

It must be realized that teaching and imparting knowledge to students remains the main focus of an academic institution and NUST is no exception. However, what is taught and how it is taught has to be rooted in local socio-economic ecosystem while maintaining international standards. One of the most effective methods to align content of coursework is for faculty to solve local industrial problems and to involve students in such projects. Managing all these activities is challenging for faculty. Through "Policy on Faculty Work Load" issued by Estb/HR Directorate, evaluating of faculty member's workload has already been formalized. Our next challenge is to leverage technology so that faculty can improve their productivity.

Introduction of LMS to manage course content, students' grades and records etc. is very positive and a step in the right direction. One of the most challenging and time consuming activities performed by a faculty member is evaluation of students' learning and providing nurturing feedback. This task has to be done effectively and frequently. It is time consuming and each student needs individual attention. Proposals to develop technology and content to make student evaluation and feedback effective and efficient will be supported on a higher priority.

2.6.2 Information Flow and Knowledge Management for R&D

In order to solve local industrial problems faculty and researchers need to have access to succinct information about such problems. Industry needs to know faculty's technical capabilities and physical infrastructure available to solve relevant problems. Typically, industry's problems are solved by multidisciplinary teams and appropriate funding sources need to be identified. A state of the art integrated information flow and knowledge management system in the form of "nustinopedia" will be made available to faculty, industry and funding agencies. Resources will be made available to keep data and information consistent and up to-date. Automatic matching of faculty profiles, industry's problems and funding opportunities will be

performed. Results of this matching process will be proactively sent to relevant stakeholders. Efforts to arrange workshops, conferences and seminars to collect information regarding national scale problems will be coordinated and supported by research directorate.

2.6.3 Appointment/Responsibilities of HoD Research

In order to further enhance the scope and pace of R&D work, each constituent institution will establish an R&D Cell headed by a Ph.D qualified faculty member to be designated as HoD Research who will co-ordinate, monitor and record all the R&D activities of the institution. The R&D Cell will consist of HoD Research of the institution with ILO assisting him (where exist). Nomination of HoD Research will be sent to Research Directorate which will further liaise with HR Directorate for appointment through office order. HoDs Research at institutes will have following responsibilities:

a. Monitoring of all RIC related activities at respective institutions and reporting to RIC NUST on regular basis.

b. Receiving research project proposals from potential PIs, checking thoroughly as per the requirements/parameters for any mistakes/omissions set by potential donor agency/NUST and dispatch to Research Dte.

c. Follow up of research projects from initiation till logical conclusion and completion report is submitted (closure for the triple constraints of scope, time and cost).

d. Ensure regular submission of project progress reports as depicted in the proposal / project implementation plan to Research Directorate.

e. Ensure that all PIs of projects meet their timelines and in case of resignation or absence of PI for a period, that can affect project outcomes, take over by co-PI as per procedure.

f. Report immediately to Dean/Principal/Commandant of the Institute and Research Directorate for any risk triggering and likely to affect scope, time, cost and any deliverable.

g. Provide reports and returns to ORIC (Research Directorate) in terms of data collection, analysis, presentations and any document or information concerning the research projects/publications/research conferences and all activities being performed under the ambiance of ORIC (Research Directorate) as per the attached format at Appendix 2J.

h. Ensure that all the activities in the Institute falling under the domain of ORIC are executed as per the RIC policy in true letter and spirit. In case of failure Dean/Principal/Commandant and ORIC is informed immediately.

i. Compiling an information pool for all ongoing and completed research in respective Institute and sharing with NUST ORIC whenever requested.

j. Compiling the details of consultants and subject matter experts in respective Institute to share their inputs in evaluation of technologies/products for commercialization.

k. Maintaining and updating data regarding specialist research equipment/lab equipment along with their research capability held with the Institute.

l. Compiling a catalog for all technologies/products with commercial potential and subsequently assisting ORIC to organize presentations with PIs.

m. Continuously update IP data and facilitate researchers to get assistance from IP office NUST.

n. Assisting ORIC NUST in employers' sessions, recruitment drives, counseling sessions and alumni talk series being held at respective Institute.

o. Monitoring industry related collaborations and projects directed towards respective institute through ILO at ORIC.

p. Maintaining database of placements and internship opportunities provided by ORIC.

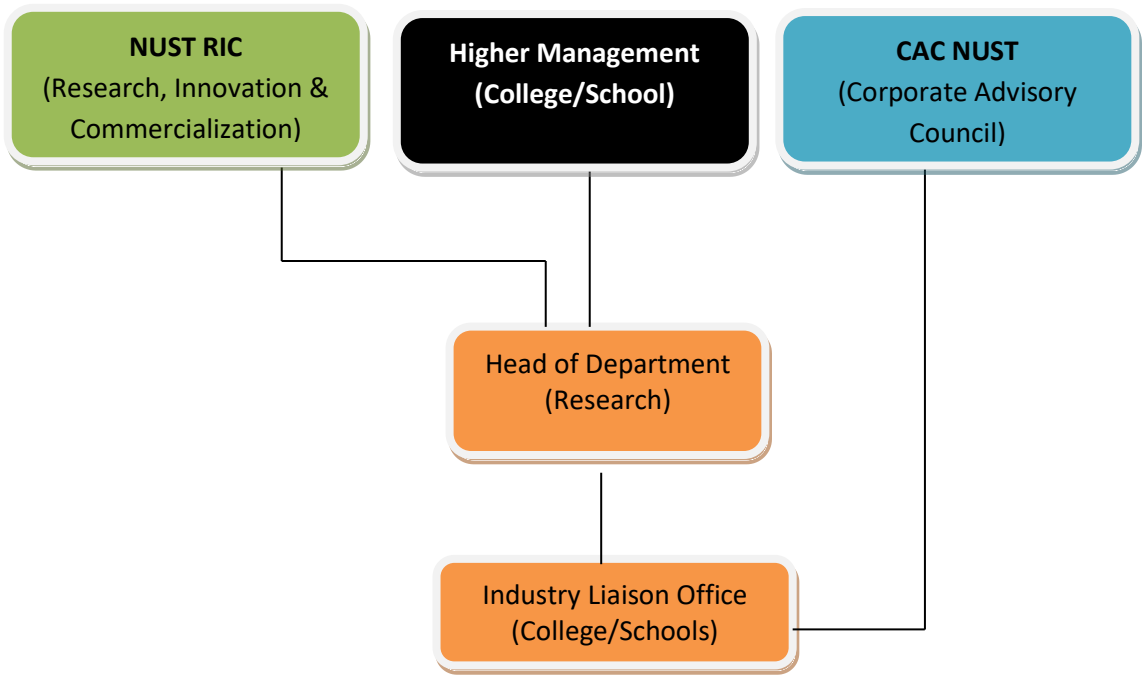
q. Provide regular feedback to I&C Directorate on commercialization activities as required (this includes news items to be published in NUST, MoST , HEC etc. News letters)

r. Provide Reports and Returns to I&C Directorate as per Appendix 2K, 2K1 and 2K2.

s. Creating awareness and training of faculty and relevant staff about RIC related policies and activities.

t. To attend bi-monthly meetings at ORIC to review the progress of ongoing activities.

Organogram



Additionally the institutions will establish research groups/clusters in the areas of their expertise. These research groups/clusters will be monitored both Research Dte and by respective institutions.

2.6.4 Processing of R&D Project Proposals

Broadly speaking, there are following sources of funding for sponsoring R&D projects:

a. Industry including public and private sectors.

b. International funding agencies.

c. Government organizations such as MoST, Ministry of IT & Telecom, HEC, PSF, PTCL, etc.

d. Defence organizations such as NESCOM, MoD and Service HQs etc.

e. NUST Research and Development Fund.

f. Any other funding agency.

2.6.4.1 Raising Project Proposals

A project can be initiated by any member(s) of NUST constituent institutions or Directorates at NUST. The person initiating the project will be called Principal Investigator (PI). It is preferable to have a Co-PI in each project who will assist the PI. In case of a team or group of members initiating a project, there will be a PI and others would be members of his team. Such projects involving a group or team will be preferred especially so if these are multidisciplinary involving more than one NUST institution as this arrangement ensures continuity in progress and reduces dependency on an individual. PI must identify the end- user(s)/beneficiary of the R&D output and also focus on the priority areas, because such proposals have better chances of getting funding/sponsorship. The involvement of industry while raising a proposal also improves chances of obtaining sponsorship. For this, contacts through NUST Corporate Advisory Council (CAC) may be leveraged. PI would also identify the possible sources of funding. The choice of selection of sponsoring agency will depend on the type of the project and areas of interest of sponsoring agencies. Various programmes and areas of interest for all different agencies are available on the respective websites with complete details and the latest version of Request Performas for such proposals. The project proposals will be initiated by PI on prescribed forms of the suggested sponsoring agency. For projects of Armed Services/MoD, the proposals will be raised as per their requirements. In case funding is required from NUST own resources, the proposals are to be raised on “NUST Project Proposal Form”, (NUST PPF), attached as Appendix 2A. For projects whose sponsorship is solicited from external agencies a predetermined percentage (from public sector the desirable amount is 15-20% and for private sector 30-40%) of the total cost of the project be charged as “University Overheads” to cover the cost incurred by the University. The university Overheads so received is to be disbursed as per distribution given in para 2.11. It may be noted that while soliciting the funding from external

agencies for a project, all HR hiring, traveling, lab equipment cost including inflation and dollar value adjustment, university overheads etc must be catered for.

2.6.4.2 Project Appraisal

The project proposal will be analyzed/scrutinized at Research Directorate, NUST in the light of its requirement/usefulness towards the academic achievements, human resource development, permanent equipment to be inducted, marketing/commercialization aspects and mainly the extent of contribution of the project towards socio-economic growth of the country. The thoroughness with which the proposal is prepared in terms of expenditure, cash plan and timelines with deliverables will also be taken into account.

2.6.4.3 Funding of Projects through External Grants

The project proposal, after necessary vetting at Research Directorate in consultation with I&C Directorate, will be forwarded to the funding agencies/contracting agencies for provision of necessary funds. During the peer review/vetting process of the external funding agencies, if required, representatives of NUST will attend the meetings along with the PI of the project in order to get the project approval. Directorate of Research in coordination with Project Team would help in finalizing the contract/agreement with the funding agency. Such Contracts/Agreements are to be processed by the Research Dte at NUST and signed by the Pro-Rector (RIC) on behalf of NUST. Sample Contract/Agreement Form is attached as Appendix 2B. However, if the sponsoring agency so requires the contract agreement as per their requirement will take precedence.

2.6.4.4 Funding of Projects through NUST Budget - R&D Fund Account

The R&D Fund Account has been created by pooling 10% of annual tuition fees (income) on regular basis. The intention is to create an Endowment Fund which, over the years, will be sufficient in capital amount to enable R&D projects of NUST constituent institutions to be sponsored/funded out of profit earned. The fund and/or its profit may be utilised for bridge financing large projects or innovative ideas that need low funding. Funding requests for small grants must be submitted using NUST Project Proposal Form. Bridge financing will be provided for projects that:

a. Are submitted to funding agencies.

b. Receive approval for bridge financing from Project Review Committee.

c. Have already received approval from external funding agency and are waiting for funds to be released.

d. To meet any shortfalls for completion of any project if the sponsoring organization is unable to support the project to its logical conclusion. Project Review Committee's Positive recommendation will be needed before funding for completing the project.

e. To fund the R&D projects which require relatively small amounts but have significant application.

The funds from R&D Fund Account can also be used as follows:

a. To provide remuneration/honorarium on the achievements/promotion of R&D activities.

b. Any other aspect which can contribute towards enhancement of scope and pace of R&D at NUST.

2.6.4.5 Project Approval

All R&D project proposals for funding through NUST R&D Fund Account will be considered by the Project Technical Review Committee, consisting of Dir Research as chairman, Dir I&C and DD Comm/TTO as members and DD Research as secretary. If the project is found viable, it will be recommended for approval by the Project Review Committee whose monthly meetings will be held to consider research funding requests to be sponsored through NUST R&D Fund Account. If recommended by the Project Review Committee the funding will be put up for approval by Pro-Rector (RIC)/Rector. The composition of the Project Review Committee will be as under:

a.	Pro-Rector (RIC), NUST	-	President
b.	Director (Research), NUST	-	Member
c.	Director (I&C), NUST	-	Member
d.	Director (Finance), NUST	-	Member
e.	2 x Expert faculty members in relevant fields of the project	-	Member (optional)
f.	01/02 market experts in the respective field	-	Member (optional)
g.	Project Coordinator (Research), NUST	-	Secy

2.6.5 Financial Aspects

R&D projects may be funded in phases or as one time grant only for small expenditures. In case of former the payment will be authorized/released according to phase-wise implementation plan and receipt of satisfactory progress report of previous phase. While NUST encourages its researchers to acquire funding from external resources it also provides fund from its R&D account. It is mandatory for all researchers to understand that funds approved for all sponsored R&D projects are to exclusively be spent on items/heads as approved in the project and the financial rules and regulations promulgated through NUST Statutes be followed for expenditure incurred on the project. However, in case of external funding, requirement of sponsoring agencies will over ride NUST procedures if conflict exists. Subsequent paragraphs are the instructions for administering funds under various sources of sponsoring agencies.

2.6.5.1 Projects Sponsored by Public/Private Sector Industry; Government or International Organizations

Separate account is to be opened for each project and maintained by PI and Accounts Officer NUST. It will be jointly operated by the Commandant/Principal of the institution, NUST Accounts Officer and PI. The expenditure will be incurred in accordance with agreement/contract remaining within provisions of contract/MoU. All requirements/instructions specified by NUST statutes as well as those by the sponsoring agency will be adhered to. In case of a conflict in instructions, the sponsoring agency instructions will be followed. Progress report including an audited financial report for each phase will be sent periodically by the institution to NUST for onward transmission to funding agency as per their requirements. All non consumable items procured will be taken on charge while receipt and consumption record of all consumables will be kept.

2.6.5.2 Projects Sponsored by NUST R&D Fund Account/Development Budget

Each institution will maintain an R&D fund account for each project which will be jointly operated by the Commandant/Principal, NUST Accounts Officer and the PI. The funds made available for R&D activities will be utilized in accordance with provisions given in the project proposal duly prepared by PI and vetted by Research Dte, NUST. All requirements/instructions specified by NUST Statutes and revised from time to time will be followed. All non consumable items procured will be taken on charge while receipt and consumption record of all consumables will be kept.

2.6.5.3 Public/Private Industrial Sector Projects

The NUST researchers will be encouraged and extended official patronage to secure Industry sponsored research project both from Public and Private Sectors. This approach is a two prong

strategy: (1) Contributing towards the betterment of socio-economic condition of the country by providing solutions to industrial problems/issues; (2) and generating resource to expand the NUST R&D Fund.

2.7 Monitoring of R&D Projects

R&D Projects will be monitored for their successful implementation as per the Action Plan submitted by the institution. Six monthly progress reports as per Appendix 2C along with audited expenditure report will be sent to Research Dte for scrutiny and/or recommendation for further release of funds. In case of funding by external agencies, six monthly both for progress and expenditure will be submitted to NUST.

Additionally the requirements of the funding agencies for submission and layout of reports must also be adhered to.

2.8 Completion of R&D Project

On completion of a sponsored R&D Project, the project completion report as per Appendix 2D is to be submitted. This report must indicate the objectives/targets as approved in project proposal have been achieved. The report must also clearly indicate the output in terms of inventions/publications/value addition/problem solution/laboratory setup /MS-PhD produced etc. There port must also include a detailed financial report giving expenditure details, duly audited by NUST internal auditors. Any funds not spent are to be returned and all equipment procured through the project is to be brought on charge by the institution where the project was undertaken. For projects sponsored by funding agency other than NUST, the completion report as per the format received by external funding agency must also be submitted. In case the project team is of the view that a project will result in a commercializable output and/or a patent has been generated, the PI must contact Innovation and Commercialization Directorate at NUST for commercialization and/or patenting. Details of the commercialization and patenting process are given in chapter 3. University/institutional overheads deposited to main office shall be confirmed by the PI in the completion report.

2.9 Commercialization of R&D Output of The Projects

The institutions will forward information about R&D output of the projects of significant importance to I&C Dte, NUST for commercialization. Efforts will be made to commercialize the output of these projects. I&C Dte will play its part in all such commercialization efforts.

2.10 Incentives for Obtaining Sponsored R&D Projects/ Consultancy Services

For academic growth and national development, the faculty members, both military and civilian, are to be encouraged to undertake research projects/studies/consultancy services. Payment of honorarium to the PI will depend on the extent of his/her involvement, total expenditures and net savings from such activities. The distribution of the profit gained after completion of the project/studies/consultancy etc after deducting all expenses on approval by Pro-Rector (RIC) will be as given below. For the projects where an IP is generated the provisions of NUST IP Policy will be followed.

a.	PI & his team	-	80%
b.	Dept/Institution R&D Fund	-	10% (for promotion of R&D)
c.	NUST R&D Fund	-	10%

Commandants/Principals/Deans are to ensure that the faculty members keep appropriate time balance between academic and research activities. Yearly research performance of each faculty member is also to be evaluated based upon his/her number of publications including ISI indexed journal (impact factor) so attained, number of research projects approved by external funding agencies and the funds so acquired. Additionally following incentives will be given:

a. A share in university overheads as per para 2.11
b. Support / sponsorship for membership in specialized societies as per para 2.14.
c. Support for publications in refereed Journals and patent filing as per para 2.15.
d. Sponsorship for presentation of papers in conferences as per para 2.16.
e. Financial award for publication in Journals as per para 2.17.
f. University Best Researcher Award as per para 2.18.
g. An opportunity to the faculty / students to showcase their industry solutions / products are to be evaluated accordingly as per para 3.3.4.
h. University Best Innovation and Commercialization Award.

2.11 Utilization of University Overheads, included in the Externally Funded Projects

HEC provides 15% “University Overheads” in the total cost for all projects under National Research Program for Universities (NRPU), where Offices of Research, Innovation & Commercialization (ORIC) have been established. All NUST institutions are required to add 15% University Overheads

when submitting R&D proposals to HEC for NRPU scheme and others as per the provisions of respective funding agencies. As a general guideline researchers are encouraged to add a percentage of University Overheads from 15-20% of the project cost in the total cost of the project proposals.

The amount of the funds received against "University / Institutional Overheads" will be deposited with Finance Directorate Main Office NUST for building the NUST R&D Fund. This fund will be utilized for promotion of RIC related activities at NUST level. In the cases where award letters clearly indicate overhead amounts, the Finance Directorate will retain the overhead amount in R&D account while transferring project funds to the institute and PI. If the overhead amounts are not separately indicated in award letters, the PIs of the projects and institution account officers shall deposit the overheads amount to Finance Directorate on the completion of the project. The confirmation to this effect will be part of the completion report; same is to be verified by Research Directorate. This procedure applies to only those research projects which are provided with University overheads.

2.12 Utilization and Sharing of Research Laboratory Facilities for Academic and Research Purposes

NUST has invested heavily on its research facilities and infrastructure including procurement of a lot of hi- tech lab equipment and expansion and up-gradation of laboratories. This has resulted in enhancement of research capabilities and capacity. As a consequence NUST can claim to have the most comprehensive laboratories compared to other universities in the country. These laboratories are now supposed to become the centre of excellence in their respective fields.

Optimum utilization of our state-of-the-art equipment for benefit by NUST faculty, students and other researchers and also making this available to other organizations/institutions to contribute to the country's development is now the need of the hour. For the purpose, NUST research facilities must be accessible to the researchers/scientific community including NUST TIC Incubatees. The expensive sophisticated, specialized, laboratory equipment purchased by NUST must also be maintained and kept functional, ready to use and upgraded regularly. This translates into expenditure in terms of manpower, spares, consumables, various utilities, services etc. As such there is a need to levy charges upon usage of this sophisticated equipment. Therefore formulation of a methodology to calculate charges, account for the funds so collected and their disbursal is essential. The purpose is to enable all researchers to have access to NUST state of the art research equipment for utilization for the socio-economic growth of the country and at the same time, to serve as a source of income for maintaining these facilities. This aims to provide a formal, auditable method of

self generating funds keeping an account of the same and knowing the authorized disbursal. Guidelines for utilization and sharing of NUST research facilities are as given below:

a. All Research infrastructure at NUST Colleges/Schools/Centres is owned by NUST as a whole and does not belong to any particular project, funding or donor agency/institution/ organization.

b. NUST Institutions will maintain a policy of open access of research facilities and willingly share these facilities with the researchers/scholars.

c. The research facilities will be offered to the researchers and a conducive research environment will be provided to the scientific community/researchers.

d. Only authorized users/researchers will be permitted to use the offered facilities as per the procedure.

e. No facility/equipment will be moved, relocated or rearranged outside the authorized laboratory / institution without prior approval by competent authority.

f. No equipment documentation/associated gears, materials may be removed from its location at any time or for any reason except portable instruments requiring movement for survey purpose which will than be returned.

g. Priority for use will be as follows:

(i). By the students and faculty of the parent institution.
(ii). By the faculty and students of other NUST institutions.
(iii). By any other researcher / organization.

h. Users will be responsible for backing up their own data and protect their own information.

i. The research facilities will not be utilized by any individual user for commercial/business purposes or any profit venture, sub-let etc.

j. The utilization charges, their accounting and dispersal will be done as per provisions of sub para 2.12.1.

k. Laboratory facilities for UG classes within NUST colleges, schools, institutes and centres can be shared / utilized with mutual consent without utilization charges, however, provision of essential consumables and material for project/class will be the responsibility of the Parent Institution where the equipment is kept.

2.12.1 Cost, Accounting & Expenditure Procedure for Utilization and Sharing of Research Laboratory Facilities

The guidelines as given below will be followed for utilization and sharing of research laboratory facilities for academic and research purposes:

a. The costing unit for equipment utilization will be a single test or utilization time (i.e. cost per test or cost per hour).

b. The costing will take into account the following:

(i) Man hours of the supervisor, lab engineer, technician etc. utilized.
(ii) Consumables utilized/utility charges.
(iii) Depreciation / wear and tear of the equipment.
(iv) University over heads at the rate of 50% of the sum of S Nos (i), (ii) & (iii).

c. The charges levied will be as follows:

(i) No charges from the faculty and students of the institution where equipment is placed.

(ii) No charges from UG Class of any NUST institution utilizing the equipment for UG lab experiment as per curriculum.

(iii) All faculty / students of NUST institutions other than where equipment is placed be charged as per calculation of sub para (b)(i) to (iii) (i.e. charges = man hours cost + consumable cost + depreciation / wear cost.

(iv) All other researchers / organizations will be charged as per complete provisions of sub para (b) above. (i.e. charges = man hours cost + consumable cost + depreciation / wear + (university overheads calculated as per sub para b(iv) above.

d. For accounting purposes the following steps be taken:

(i) Separate accounting register be opened for each equipment/machine, use of which is being charged.

(ii) The first page of the register should give detailed cost calculation and rate (per test or per hour).

(iii) The next page onward should give details of funds collected and the dispersal.

e. The funds collected against charges as per sub para b(i)(ii)(iii) above be deposited in parent institution's recurring fund account and be utilized accordingly.

f. The funds collected against charges at sub para (b)(iv) above be forwarded to NUST for depositing in NUST R&D fund account.

2.13 Support for PG Research

Research carried out by Postgraduate students during their MS and PhD programme is a vital and valuable R&D asset of the university. Faculty members are to pay special attention while advising the students regarding the field / topic of research / thesis. The topics and areas of the research should conform to the present as well as future national needs. Financial support will be made available at the start of thesis phase. The fund allocations would be made out of MS thesis and Ph.D research funding held with NUST.

2.14 Support for Faculty Membership in Specialized Technical Journals and Professional Societies

Faculty members can propose any research society (such as ACM, IEEE, CPSR, etc. or other professional societies) that they desire to be a part of, and research journal that they wish to subscribe, for their institution. The university will financially support the provision of these memberships/journals centrally or at institution/department level, if permissible by the publishers, provided that reasonable efforts are made to share the resources among other members of the NUST community. It may however be noted that maximum efforts be made to utilize HEC's PERN facility/Digital Library for consultation of research material.

2.15 Publications in Refereed Journals and Patenting

It is mandatory for the faculty and postgraduate students to publish technical research papers in refereed journals and conferences on regular basis under the name of "National University of Sciences and Technology, Islamabad". Each faculty member is expected to produce atleast one research publication annually in Impact Factor journals. Similarly, each PhD student will contribute at least two research publication in Impact Factor journals. Order of the authors in a publication to be arranged as per their research contribution and students be given preference when publication is based on their hard work. They must also be encouraged to present their research at national/ international forums. Highest credit will be given to publications in journals with high Impact Factor. To encourage faculty for publishing the research finding/paper in ISI Indexed Impact Factor journal, publication/registration fee can be provided. Likewise, sponsorship for publication of book and chapter in a book will be made available after evaluating the research work, publishing agency and standing of the publication. (It is however emphasized that funding for presentation of research papers in conferences as well as their publishing in the journals should be built into the sponsored research projects). In order to elaborate and streamline the sponsorship procedure for publication charges/fee following criterion will be followed:

a. On acceptance of research paper in a journal, case for sponsorship of publication charges/fee may be submitted on prescribed Application Form attached as Appendix 2H at least 04 weeks in advance of the due date for processing and approval.

b. Share of the authors for the sponsorship of publication charges/fee will be determined as appended below:

No of Authors	Order of Authors	Percentage of NUST Sponsorship
Sole	Sole Author	100%
Two	1st Author	60%
	2nd Author	40%
Three	1st Author	50%
	2nd Author	35%
	3rd Author	15%
Four	1st Author	45%
	2nd Author	30%
	3rd Author	15%
	4th Author	10%

c. Only NUST author for full publication charges/fee can be considered on case to case basis for 1st and correspondence author's affiliated with NUST.

d. Publication charges/fee upto maximum of US$ 800/- (or equivalent) for ISI Indexed Journal with Impact Factor and upto maximum US$ 500/- (or equivalent) for Scopus and ISI Master List Journals` research paper can be provided.

e. In order to avoid NUST publications with fake/bogus/predatory publishers and journals, it is mandatory for the authors to carefully select the journal after considering the latest information on the subject.

f. Research work declared clear by the local Research Ethics Committee (where applicable) be only submitted for publication.

Similarly initial filing of all patents will be sponsored by NUST under the following conditions:

a. Patentability of the invention is determined using standard procedure.

b. The assignee of the patent is NUST and at least one of the inventors is a student/faculty member/staff of NUST.

c. Patent is filed with IPO Pakistan.

d. Permission /sponsorship for filing foreign patents is to be taken on case to case basis.

The case for sponsorship of filing of patents is to be processed through NUST Intellectual Property Office.

2.16 Sponsorship of Presentation of Research Work/Paper in Reputed International Refereed Conferences

For the purpose of sharing and nurturing the seeds of research, NUST organizes and participates in international conferences, seminars and symposiums, etc abroad. These activities foster research and

intellectual exchange of information between academia, industry, and other participants. Sponsorship to these events is essential for professional grooming and growth of faculty and students. Eligibility criterion, guidelines and procedure for NUST sponsorship is as follows:

a. A regular faculty member/research staff and bonafide PG student who successfully submits the results of his/her research work in a international refereed conference of repute, will be sponsored on acceptance by the university to present his/her work/paper in that conference.

b. The applicant should have completed six month service at NUST, and has valid contract to continue with NUST. In case of MS/M.Phil student, he/she will only be sponsored for visit to the conference if he/she has already published an ISI indexed(IF) research paper, otherwise, they can request for registration fee only.

c. NUST faculty/research staff/students already abroad on a sponsored program will be considered for registration fee on case to case basis only.

d. The standing of the conference will be determined by the acceptance i.e acceptance of full length paper and peer review etc. process. If the acceptance of papers is without a peer review and/or on submission of abstract only and for poster presentation, the request for sponsorship will not be entertained. The quality of the research paper and conference will be evaluated on the basis of following:

    i. Maturity level of the conference.
    ii. Acceptance rate (if available).
    iii. Hosting Agency/Organizers/Event body/Professional Society.
    iv. Review process and reviewer's comments.
    v. Indexing of the proceedings.
    vi. Value of research work/paper and expected benefits viz-a-viz cost involved.
    vii. Possibility of publication of extended/modified version paper in a valued journal

e. In case of multi-authored papers the travel request to present paper will only be applicable for the first author unless the first author is not eligible or unable to present due to exceptional circumstances beyond his/her control. In such case, supervisor of the 1st author can be sponsored for presentation in the conference for the research paper to be published in proceedings.

f. The Commandant/Principal of the institution is to ensure that only those requests are recommended for sponsorship which have high value and have strong chances of getting the revised/modified research paper published in a reputed refereed journal. The request for sponsoring visit/registration fee in a conference is to be submitted on prescribed form, attached as Appendix 2E.

g. Faculty member/research staff/PG student may request for sponsoring of the registration fee only for subsequent paper(s) to be published in the proceedings of refereed international conference(s).

h. Primary professional affiliation of the author with NUST and acknowledgement of sponsorship must be shown on the research paper

i. NUST sponsorship will depends upon availability of funds in the relevant head and approval of the Competent Financial Authority.

j. All such requests must be forwarded to Research Dte, Main Office NUST at least 08 weeks in advance for processing and approval. The request must also have the duly filled application forms (as applicable) for alternate sources of funding like HEC, PSF, PTCL and Ministry of IT etc.

k. All participants are required to submit the conference proceedings/Post Visit report to the institution and the institution will forward it to Research Dte.

l. Request for second time sponsored visit to a conference would only be entertained, if subsequent to the conference, a research paper is published in ISI indexed journal with Impact Factor and one year has been passed from the date of previous conference sponsorship.

m. PhD student will be required to produce at least two ISI Indexed (IF) research papers before the 2nd sponsorship.

n. Sponsorship for Conferences held within country will be approved by the institutional heads out of institutions` budget.

2.17 Grant of Financial Award for Publication

NUST has always encouraged its faculty, research staff and students to actively involve themselves in research activities. It has been forthcoming in providing financial support and sponsoring the research activities. In this context, encouragement for research publications remains a very important aspect of NUST policy. NUST will also provide cash awards up to Rs.50,000/- for contribution of its faculty, research staff and students in publication of their research work with NUST affiliation. The request is to be submitted as per prescribed form attached as Appendix 2F. It is a well known fact that the quality of research publications is judged by the Impact Factor of the journal in which these are published, therefore, in order to further improve the quality of our research publications and align the policy with the latest trends, the following is necessary:

a. Research publication under the name of "National University of Sciences and Technology (NUST), Islamabad, Pakistan" will only be considered for the award under the policy.

b. Authors with NUST professional affiliation will only be considered for the award.

c. Maximum of the first four authors in the order will be considered for the award in a multi-authored research paper.

d. Impact Factor (IF) journal indexed with Institute of Scientific Information (ISI) will be given much higher weightage for the financial award. The ISI official website has several subject categories. The amount of award of the paper will be calculated according to the rank of the journal in the relevant ISI subject category, with respect to Impact Factor in which the paper has been published. For this category, the financial award range is between Rs. 30,000/- to Rs.50,000/-. The amount to be calculated as follows:

$$\text{Amount of the award in Rs.} = 30000 + (20000) \times \frac{TJ - PJ}{TJ - 1}$$

TJ = Total journals in relevant ISI subject category
PJ = Position of the journal in descending order with respect to impact factor in the subject category

e. Research paper published in internationally recognized journals (bearing ISSN, international authorship, editorial board/peer review panel and distribution) which are not indexed with ISI will be given award upto maximum Rs. 10,000/-.

f. While single author papers will be given amount as per sub para 'd' & 'e'. In case of multi-authored paper, share of the award will be distributed amongst authors as follows:

No of Authors	**Order of Authors**	**Percentage of Share**
Two	1st Author	60%
	2nd Author	40%
Three	1st Author	50%
	2nd Author	35%
	3rd Author	15%
Four	1st Author	45%
	2nd Author	30%
	3rd Author	15%
	4th Author	10%

g. A book or chapter published in a book will be processed under this policy on case to case basis giving due consideration to the recommendations and justifications by the institution.

h. PhD Thesis published in the form of a book will not be considered under the policy.

i. A text book published for higher education and disciplines taught at NUST will be given higher preference.

j. Research work published in a journal which is not a full-length research paper i.e. Letter to Editor, Abstracts, Notes, Short Paper/Study, Discussion & Comments, Erratum and

Corrigendum etc. will be considered for the award on case to case basis. Such research work will not be counted for promotion.

k. Research paper published in ISI Master List, Scopus and NUST Journals will be given award upto maximum of Rs.20,000/-.

l. Likewise, the Editor of NUST Journal will be given an honorarium of Rs. 50,000/- per issue of the journal.

2.18 University Best Researcher Award

In order to encourage young researchers and to motivate them to perform better in future, University Best Researcher and institute-wise Best Researcher of the year Award will be given on Postgraduate and Undergraduate Convocations. The Best Researcher Award for the year will be based on a calendar year performance. It will be consist of a certificate of recognition from the Rector NUST along with a cash prize of Rs.150,000/- for University Best Researcher and Rs.75,000/- for Institution Best Researcher. Following procedure for selection will be adopted:-

a. Each institution will recommend one candidate on the prescribed proforma attached as Appendix 2G along with supporting documents through respective Commandant/ Principal.

b. Final selection/approval of the University Best Researcher shall be made by Rector NUST based on the recommendation of NUST Evaluation Committee (NEC) consisting of the following:

i.	Pro-Rector (Acad)	-	President
ii.	Registrar	-	Member
iii.	Director (Research)	-	Member
iv.	Director (I&C)	-	Member
v.	Director (Acad)	-	Member
vi.	Director (QA)	-	Member
vii.	Director HR	-	Member

c. Institution's Best Researcher selection will be carried out in line with criterion of Working Paper No. 30 approved in 40th Academic Council Meeting (ACM) held on 10 Jan 2014 .

d. Eligibility criteria for University Best Researcher nomination will be:

i. The researcher must hold a regular "faculty position" at NUST.

ii. Commandants/Principals and Deans of the institutions will not be eligible.

iii. Minimum two years service in NUST is essential.

iv. Faculty member with age less than 40 years.

v. Once awarded, re-nomination shall be considered after five years.

vi. Data for the calendar year under consideration will only be applicable.

vii. A claim with insufficient documentary proof will not be considered for points` calculation.

viii. Research projects processed through or intimated to Research Dte with proof of funds released to NUST will only be counted.

ix. Publications, projects, research grants, patents, student supervision etc. related to NUST will only be considered.

x. The best researcher must have some scores in at least 04 categories of the submitted proforma and winning aggregate score of the nomination should not be less than 25% for the award.

xi. University Best Researcher Award and Best Innovation & Commercialization Award should not be awarded to a faculty member in the same year.

2.19 Faculty Research Performance Evaluation

All NUST institutions will evaluate annual research performance of its faculty in accordance with Criterion of Performance Evaluation of Faculty issued by HR Directorate, NUST.

2.20 Research Assistants (Scholarships/Stipends)

Research Assistant (RA) is the core of research work at any educational institute. Research grants for hiring part-time research assistants may be obtained by faculty members, out of the funds allocated through sponsored R&D projects being handled by them. NUST may also consider the request for an RA depending upon the research work and teaching workload undertaken by the faculty member.

2.21 Conferences/Workshops/Seminars at Institutions

Each constituent institution of NUST is required to organize at least one national level conference/ workshop/ seminar each year and at least one international level conference/workshop/seminar every alternate year in their respective field of disciplines. During the event, in addition to concerned scholars representatives from various concerned industries, ministries and Services HQs may be invited to attend. Apart from detailed briefing about the institution, the students/faculty members may be given time for presentation of their research work. The participants should also be shown the research work in the area and may be taken around the Labs and Library facilities highlighting the

strength of R&D work. The objective is to enhance our rapport with the industry by developing understanding and strengthening industrial linkages and in the process, secure internships/placements for our students as well as sponsored research projects and consultancy services. The grant, on as required basis, to accomplish specific research objectives such as seminars, conferences, training, or to publish awareness building or educational materials be solicited from sponsoring agencies like HEC, PSF etc and in case of additional requirements funds can be provided from NUST Budget.

2.22 Research Ethics and Avoidance of Plagiarism

Higher Education Commission (HEC) has formulated a "Plagiarism Policy", which aims to apprise the students, teachers, researchers and staff about plagiarism and how it can be avoided. HEC Plagiarism Policy is available at HEC website: www.hec.gov.pk/QualityAssurance/download/ Plagiarism_Policy.pdf. In order to guard against plagiarism in university produced scholarly works and to improve the quality of research, HEC has also purchased anti-plagiarism software "Turnitin" and provided its accounts to Universities. As per the policy on plagiarism, all NUST publications submitted for any conference/journal or published independently as theses, research articles and assignments are to be evaluated for plagiarism using "Turnitin" Software. NUST institutions at all level (i.e. Principal/Commandant/Head of Department/Dean/Supervisor/Faculty Member) must ensure that publications or any written materials presented (i.e. reports, papers, thesis, assignment etc) by our Faculty/Students are free from the plagiarism. It is imperative that the cut-paste culture does not take roots in the scholarly works of the University. All must actively guard against such practices and advise others to refrain from the same. All faculty members must open their accounts on "Turnitin" and use software to check all publications. A copy of verified originality report checked through "Turnitin" is to be attached with publications (both conference & journal) whenever these are sent to NUST. Also in case of publications directly submitted for conference/journal publication these reports be verified by school/college authorities. Vigilance on the part of NUST Faculty is necessary to eradicate plagiarism and maintain the good name of the university. NUST has formulated "Standing Committee on Plagiarism and Research Ethics". The committee will deal with the misconduct cases at the university level in accordance with HEC/University Plagiarism Policies, and code of conduct. In case of absence of local rules/regulations on plagiarism, research ethics and guidelines from best international practices will be considered for resolving the issues and decision making.

2.23 Publication and Secrecy

It is the university policy to support research and the researchers to publish and materialize research results. Researchers shall however not enter into projects requiring secrecy without the specific permission of the Dean/Principal/Commandant. During implementation of the R&D project, if any confidential information has been made available to the investigator/ researcher, the confidentiality of such information is to be protected. For this, the person furnishing such information may require submission of any manuscript for review of comments after deletion of specific items constituting disclosure of such confidential information.

2.24 Associating as Adjunct Faculty with NUST

Interdisciplinary and collaboration have become synonymous with all things progressive about research and education, because of the scientific complexity of problems currently under study. It is therefore desirable that our scientists/researchers gravitate toward the rich scientific opportunities at disciplinary boundaries across the organizations. To facilitate researchers, NUST is now offering its platform to dynamic individuals for contribution and collaboration in research. The researchers at various R&D organizations can associate as Adjunct Faculty with NUST as per the procedure. Under this collaboration, these researchers can get the status of Adjunct Faculty and may be offered following benefits under the umbrella of NUST:

a. Combined authorship in research publications with NUST Faculty and supervision of PG Students.
b. Usage of NUST research facilities and labs as Adjunct Faculty Member for collaborative research projects.
c. Payment of publication fee for research paper published with affiliation of NUST in ISI Indexed Journals.
d. Entitlement for Publication Award for the author at par with NUST faculty.

Appendix 2A

National University of Sciences and Technology

H-12, Islamabad, Pakistan, Phone: (051) 90851218 Fax: (051) 90851202

E-mail: rprojects@nust.edu.pk

PROJECT PROPOSAL FORM (NUST PPF)

1. **Name of College / Institute / Center:**

2. **Project Title:**

   a. **Principal Investigator (PI):-**

      (1) Name:
      (2) Designation:
      (3) Organization:
      (4) Mobile No:
      (5) Telephone No:
      (6) Email Address:

   b. **Co-Principal Investigator (Co-PI):-**

      (1) Name:
      (2) Designation:
      (3) Organization:
      (4) Mobile No:
      (5) Telephone No:
      (6) Email Address:

   c. **Contact Person:-**

      (1) Name:
      (2) Designation:
      (3) Organization:
      (4) Mobile No:
      (5) Telephone No:
      (6) Email Address:

3. Collaborating Organizations

a. Industrial Organizations:-

Name	Role / Contribution

b. Academic Organizations:-

Name	Role / Contribution

c. Funding Organizations:-

Name	Role / Contribution

d. Other Organizations:-

Name	Role / Contribution

4. Keywords

(Provide maximum five words that describe the project)

5. Status of the Project (Tick the relevant from the following).

a. New
b. Extension of existing project (write title of previous project)
c. Modification of previous project (write title of previous project)

6. Project URL

The project URL should be provided. This URL should be hosted by the project executing agency. Sufficient details such as execution summary, objectives are expected on the website. Once the project proposal is approved, the website should also provide final copy of the proposal and deliverables / progress.

7. Project Duration

a. **Expected starting time:**
b. **Planned Duration:**

8. Executive Summary of the Project

9. Scope, Introduction & Background of the project:-

a. **Scope**
b. **Introduction**
c. **Challenges**

10. Objectives of the project:-

a. **Specific Objectives**
b. **Research Objectives**
c. **Academic Objectives**
d. **Industrial Objectives**
e. **Human Resource Development Objectives**
f. **Other Objectives** (if any)

11. Research Approach:-

a. Development / Research Methodology
b. Project Team
c. Team Structure
d. Project Activities
e. Key Milestone / Deliverables

12. Benefits of the Project:-

a. Direct Beneficiaries of the project
b. Outputs Expected from the project
c. Organizational / HRD outcomes expected
d. Technology transfer / Diffusion Approach

13. Risk Analysis

a. **Risks of the project** (Tick the relevant box)

		L	M	H
(1)	Technology Risk	☐	☐	☐
(2)	Timing Risk	☐	☐	☐
(3)	Budget Risk	☐	☐	☐

b. **Comments** (Any essential comments that are necessary from project point of view).

14. Contractual Matters

a. **Contractual obligations under the project** (Concerning third party)
b. **Ownership of Intellectual Property Rights**
c. **Competent Authority of the PI's organization**

(1) Name:_____
(2) Designation: _____
(3) Email:_____
(4) Date:_____

_____

(Signature & Stamp of Commandant / Head of Institution)

Surety Certificate

Title of the Project: _____

_____

PI:_____ **Co PI:_____**

Funding Agency:_____ **Amount:_____**

It is certified that the proposal has been scrutinized for following:-

(a) Targets set by the PI are attainable / reasonable.

(b) Track record of PI is sound and qualification adequate.

(c) The PI has shown commitment to complete the project if awarded.

(d) He has been informed that he will be responsible to transfer the project in accordance with rules / regulations in case he leaves the institution or desires to proceed on course / long leave.

Signature of PI **Head of Institution**

Appendix 2B

CONTRACT FOR FINANCIAL ASSISTANCE UNDER RESEARCH GRANT

(SAMPLE)

Whereas the Higher Education Commission, subsequently referred to as the "Commission has agreed to grant a financial assistance to _____ subsequently referred to as the "Party" for the project entitled "_____" subsequently referred to as the "Project".

Now it is mutually agreed as follows:

1. The financial assistance will be for a total amount of Rs. _____spread over a period of _____.
2. The assistance will be given to the Party in one installment as shown below:

1st Installment	Rs._____
2nd Installment	Rs._____
3rd Installment	Rs._____

3. 3 Progress report will an expenditure statement (3 copies) will be submitted by the Party to the Commission in accordance with instruction issued by the Commission to the Party from time to time.
4. The Commission shall have the right to evaluate the progress of research/investigation/work done by the Party through a evaluation Committee to be appointed by the Commission for this purpose. This evaluation will include on-site inspections also.
5. The grant received by the Party form the Commission will be exclusively utilized for the project and the party will submit a audited statement of expenditure alongwith the annual progress report.
6. The expenditure incurred from the grant will also be subject to periodical audit by the Commission and the Party shall produce the books of accounts to the persons(s) appointed for this purpose by the Commission.
7. All purchase will be made as per prescribed rules of the Government/University where the project is located.
8. Machines, equipment, apparatus of any other thing purchased out of the grant given by the Commission will remain the property of the Commission, or with the permission of theCommission, the University where the project is located.

9. Any discovery made, patent and/or license obtained based on the research carried out with this grant will be in the name of the Commission and any income accruing there from, will be shared by the Commission and the Party according to the formula to be stabled by the Commission.
10. The Party shall spend funds strictly in accordance with the approved plan. Any deviation in this regard shall require the prior approval of the commission.
11. No change in the arrangement for supervision/execution of the project or in the approved technical programme will be made without the written consent of the Commission.
12. In all publication and reports concerning the project, the supported provided by the Commission will be duly acknowledged.
13. The project funds shall be maintained in separate account to be operated jointly by the Party & Treasurer/Accounts Officer (in case of Centres) and all payments will be made observing all codal formalities.
14. The party shall carry out necessary revisions/amendments as suggested by evaluator(s) before execution of the project.
15. If PI intend to go abroad, he/she should inform R&D Division of HEC prior the departure and may nominate substitute for the period of his/her absence with a plan of activities of project to be carried out in his absence by the nominee.

In witness hereof, I/we _____put my/our signature(s) here below on the _____day of _____.

Signature
Higher Education Commission

Signature of the Party
Name: _____

1. Designation:_____

   Dated:_____

2. Signature of the Principal/Commandant of School/College

3. Signature of the Vice-Chancellor/

   Institutional Head/Official Stamp

   Dated: _____

Appendix 2C

National University of Sciences and Technology

H-12, Islamabad, Pakistan, Phone: (051) 90851218 Fax: (051) 90851202

E-mail: rprojects@nust.edu.pk

Six Monthly Progress Report

1.	**Name of Project:** Date of Approval: Date of Commencement: Date of Completion: Duration :			
2.	**Financial Status:** Amount Released: Amount Expended: Amount in Balance			
3.	**Present Status:**	In Progress	Delayed	Completed
	Progress Status achieved during the reporting period			
	Activity (Same as the implementation plan)	**Target date of completion as per implementation plan**	**Achieved %age**	**Remarks**
a.				
b.				
c.				
4.	**Issues/Bottlenecks in Projects Implementation, if any:**			
	Signature of the PI			
	Date:_____			

Countersigned by HoD (Research)

Appendix 2D

National University of Sciences and Technology

H-12, Islamabad, Pakistan, Phone: (051) 90851218 Fax: (051) 90851202

E-mail: rprojects@nust.edu.pk

PROJECT COMPLETION REPORT

To be furnished immediately after completion of Project

1.	**Title of Project:** **Project No.** (in case of HEC)	
2	**Project Information** Date of Approval: Date of Commencement: Date of Completion: Approved Duration:	
3.	**Project Budget** Approved Amount Amount Received: Amount Expended: Amount in Balance:	
4.	Funding Agency and Scheme	
5.	**Information of Principal Investigator** Name: Email: Cell#: Tel (Office): Institution:	
6.	**Information of Co-PI** Name: Email: Cell#: Tel (Office): Institution:	
7.	**Information of Other Team Members** Name Email: Cell#: Tel (Office): Institution:	

8. **Lab Equipment and others items purchased for the project:**

S. No	Items	Cost	Make/Model/ S.No	Name of Lab where item/eqpt physically available	Voucher No.

9. **Project Details:**

a. Introduction
b. Summary of research Methodology
c. Objectives of the project
d. Capability achieved

10. **Benefits of the Project:**

a. Market Potential
b. End Users/Organizations which can utilize output.
c. Marketing / Commercialization Strategy
d. A certificate to be furnished that following objectives of project as per proposal have been achieved:

11. **Tangible Outputs of the project**

a. Details of research papers produced.
b. Details of conferences/workshops/seminars conducted.
c. Details of product invented through this project.
d. Is it Lab Model, Software or Prototype?
e. Details of Patent Filed or otherwise.
f. Any kind of lab has been established while completing this project?

12. **Research Supervised** (Number of students who have **completed** research degrees under said project)

PhD produced	M.S / MPhil Produced	Total

13. **Research Assistants (RAs) Hired**

S. No	Name	Salary	Duration	Total Cost
a.				
b.				
c.				
Total				

14. **Research Visits (Foreign) under the Project Fund**

Name of FM/Student	Visit Country	Expenditure	Visit Duration	Visit Univ/Dept/Org etc

15. **Other Outputs**

No. of Products		**No. of Processes/ Methods**		**Any other out put Please specify**	
Developed	**Marketed**	**Developed**	**Marketed**	**Developed**	**Marketed**

16. **Linkages with R&D Organizations, Universities and Industries:**

S. No	**Counterpart organization**	**Type of linkage**

17. **Socio-Economic Impact of the Project (Compulsory).**
18. **Reasons of delay if the project is completed after the approved duration:**
19. **Recommendations on further utilization of results / output indicating commercialization and marketing:**
20. **Major problems faced during the execution of project, if any:-**

Signature of the Principal Investigator : _____

Name of the Principal Investigator : _____

Date of Completion : _____

Date of Signature : _____

Signature of HoD (Research) : _____

Countersigned by Commandant / Principal

National University of Sciences and Technology

H-12, Islamabad, Pakistan, Phone: (051) 90851218 Fax: (051) 90851202

E-mail: rprojects@nust.edu.pk

FUND UTILIZATION REPORT

Project Title:

S. No	Description	Approved Budget	Expenditures	Balance
a.	Salaries (Including Honorarium)			
b.	Permanent Equipment			
c.	Expendable Supplies			
d.	Literature, Documentation			
e.	Travel / Research & Training			
f.	Miscellaneous			
g.	Indirect Cost (University Overheads)			
h.	Others			
	Total			

Principal Investigator: _____
(sign & stamp)

Accounts Officer: _____
(sign & stamp)

University Audit Authority: _____
(sign & stamp)

COUNTERSIGNED

Commandant / Principal / Dean / HoD Research
(Signature & Stamp)

Appendix 2E

National University of Sciences and Technology

H-12, Islamabad, Pakistan, Phone: (051) 90851205 Fax: (051) 90851202

E-mail: dresearch@nust.edu.pk

CHECK LIST FOR ORAL PRESENTATION OF RESEARCH PAPER IN INTERNATIONAL CONFERENCE/SEMINAR/WORKSHOP/SYMPOSIUM ETC

Please attach copies of relevant documents/correspondences and tick the relevant box.

1.	Sponsorship case has been prepared on revised NUST, HEC and PSF Application Forms.	
2.	Full length Camera Ready Research paper under full nomenclature of "National University of Sciences and Technology, Islamabad, Pakistan" is attached.	
3.	Duly verified "Originality Report", of the research paper/work to be presented, generated through "Turnitin" is attached.	
4.	Acceptance as "oral presentation" after peer review of full paper in the respective conference.(original preferred; photocopy must be attested by Head of Department or Dean	
5.	Reviewers comments on the quality of the research paper provided by the conference organizers is attached.	
6.	In case of already fully sponsored, copy of published research paper in ISI Indexed (IF) journal has been attached with the case	
7.	Attached conference brochure containing aims, objectives and themes with schedule of charges of registration fee and accommodation etc.	
8.	Attached Economy class airfare certificate by the shortest route.	
9.	In case of co-author, please attach NOC from preceding author(s).	
10.	Brief CV (2-3 pages) including research contribution and S&T achievements	
11.	Duly filled in revised HEC and PSF sponsorship application forms, which can be downloaded from their respective websites; www.hec.gov.pk & www.psf.gov.pk alongwith requisite documents i.e. airfare invoice, complete papers, conference information and CV are to be submitted for onward submission to HEC & PSF.	

(Complete application should be received at least 08 weeks before the conference date at NUST. Late or incomplete applications will not be entertained.)

National University of Sciences and Technology

H-12, Islamabad, Pakistan, Phone: (051) 90851213 Fax: (051) 90851202

E-mail: research@nust.edu.pk

APPLICATION FORM FOR SPONSORSHIP OF PRESENTATION OF RESEARCH WORK/PAPER IN REPUTED INTERNATIONAL REFEREED CONFERENCES/ SEMINARS/WORKSHOPS

(Note: The case is to be submitted to NUST at least 08 weeks in advance for processing and approval)

1. Applicant's Profile:

Name:
Registration No. /Date of Joining
NIC #
Highest qualification
Designation
Institution
E-mail
Mobile #
Details of Previous Sponsorship for Conference by NUST/HEC/other funding agencies

2. Title of Research Work/Paper:

(Please attaché the copy of Research Work/Paper)

3. Authors Details:

1st Author Name
Designation (UG /MS/M.Phil /PhD Scholar/ Faculty Member/Research Staff)
Organization

2nd Author Name
Designation (UG /MS/M.Phil /PhD Scholar/ Faculty Member/Research Staff)
Organization

(To be continued depending upon number of authors)

4. Conference Title:

5. Main Theme of the conference:

6. Conference Hosting Agencies:

7. Conference Hosting Agencies

8. Acceptance Rate of the Conference:

9. Venue of Conference:

10. Details of invitation and acceptance by the organisers:

(Attach on separate sheet and refer here)

11. Website/E-mail of Conference/Organisers:

12. Requirement of finances (attach supporting documents) Total:

a. Airfare with Invoice :
b. Registration Fee :
c. Visa Fee:
d. *Others Expenditures :*

13. Details of sponsorship/funding by organisers/other agencies:

14. It is certified that: (To be answered in Yes or No)

a. Research work to be presented is original.
b. Contribution of full length research paper by a researcher is accepted only after a blind peer review or review by editorial board having substantial academic repute.
c. The hosting agency of conference (i.e. academic institution, professional society or industry) is of considerable repute.
d. The subject of the conference is pertaining to the disciplines, which are related to specialties covered by NUST.
e. The hosting agency of conference hosts such a conference regularly and each conference is numbered e.g. 39^{th} AIAA conference or 10^{th} ASME conference.
f. The hosting agency of conference peer review process is strong (acceptance rate) and it publishes the conference proceedings of each research paper presented and not just the abstract.
g. The proceedings of the conference bear an ISSN number, which ensures wide circulation and unique identification of the proceedings. It is indexed in Institute of Scientific Information (ISI) and Scopus.

h. The camera ready research paper carries the full name of "National University of Sciences and Technology (NUST), Islamabad, Pakistan".

15. Undertaking by the Authors:

I (we) undertake that:

a. The paper has significant new work as compared to my (our) papers that have already been published or are under consideration to be published elsewhere. No sentence, equation, diagram, table, paragraph or section has been copied verbatim from previous work unless it is placed under quotation marks and duly referenced. A copy of originality report (duly verified by HoD) checked through "Turnitin" software is attached.

b. The work presented is my (our) own work (i.e. there is no plagiarism). There is no fabrication of data or results. No ideas, processes, results, or words of others have been presented as Authors (s) own work. Where material has been used from other sources it has been properly acknowledged, with verbatim copies of such material being placed under quotation marks.

c. In case any plagiarism is proved, apart from penalties imposed, I will refund entire amount of grant.

d. If the grant is provided, I shall solely be responsible for its proper utilization and adjustment with used air ticket and other receipts of expenditure and refund in case of cancellation of visit.

e. I shall also furnish a Post Visit Report within 10 days after the visit. In case of non-utilization of sponsorship, I will inform Research Dte accordingly.

f. All the supporting documents submitted are authenticated.

g. If above undertaking is untrue I (we) acknowledge that I (we) will have committed a Research Misconduct Offence and am/are liable to receive severe penalties.

16. Previous Contributions

a. Attach details of earlier sponsored participation on conferences, and their status for publishing in a journal of repute.

b. Attach details of papers of the author already published in the journal of repute.

c. Attach details of other contributions

And refer these here.

_____

Name and Signature of Applicant

17. Recommendations by Dean/HoD (including the following):

a. Comments on the value of Paper:
b. Comments on the quality of Conference:
c. Benefits expected for college/institute/centre by attending the conference :
d. Recommended amount of total Funds:

Signature: _____

Name: _____

Designation: _____

18. By Commandant/Principal of College/School/Institute/Centre:

Signature: _____

Name: _____

Designation: _____

19. Remarks/Recommendations of Director (Research), NUST

_____
Signature of Dir (Research)

20. Decision by Approving Authority

Approved/Not Approved/Approved as

_____

Signature of Approving Authority

Appendix 2F

National University of Sciences and Technology

H-12, Islamabad, Pakistan, Phone: (051) 90851213 Fax: (051) 90851202

E-mail: research@nust.edu.pk

APPLICATION FORM FOR GRANT OF FINANCIAL AWARD FOR PUBLICATION BY NUST FACULTY/STUDENTS/RESEARCH STAFF

(Providing information against each column is mandatory)

1. **Publication Details:**

   a. Title of Book/Chapter/Paper:
   b. Abstract/Introduction:
   c. Name of Journal:
   d. ISBN/ISSN Number:
   e. Edition/Volume Number:
   f. Number of Pages Published:
   g. Date of Publication:
   h. Address of Publisher:
   i. Websites/Visibility:
   j. DOI:

2. **Indexation Details**

   a. ISI Indexed(Impact Factor)/ISI Master List/Scopus/NUST Journal/International Journal (Please attached copy of supporting documents also):
   b. Impact Factor of Journal:
   c. ISI Subject Category of Journal:
   d. Rank of the Journal with respect to Impact Factor:
   e. Total Number of Journals in the Subject Category:

3. **Authorship Details**: (Please provide the details of all authors of the research papers).

   a. 1st Author
   (i) Name:
   (ii) Designation: (UG /MS/M.Phil /PhD Scholar/ Faculty Member/Research Staff)
   (iii) Contact No:
   (iv) e-mail Address:
   (v) Organization:
   (vi) Research Interest:
   (vii) Paper Published:
   (viii) Previous Awards Received on Publication of Research Work/Books etc, if any:

b. 2nd Author

(i) Name:
(ii) Designation: (UG /MS/M.Phil /PhD Scholar/ Faculty Member/Research Staff)
(iii) Contact No:
(iv) e-mail Address:
(v) Organization:
(vi) Research Interest:
(vii) Paper Published:
(viii) Previous Awards Received on Publication of Research Work/Books etc, if any:

(To be continued depending upon number of authors)

4. **Confirmation of Publication**:

Published copy of Book/Chapter/Paper to be provided.
This should be from the original publication and not a printout/draft.

5. **Utilization/commercialization aspects of the research work at present and in future with plans and goals:**

6. **Undertaking by the Applicant**

I/we hereby undertake and affirm that

a. The publication has been checked for plagiarism. The substance of the book/chapter/research paper published (as indicated in S.No.1(a) above) is based on the original research conducted by me/us. No sentence, equation, diagram, table, paragraph or section has been copied verbatim from previous work unless it is placed under quotation marks and duly referenced. A copy of originality report checked through "Turnitin" software is attached. In case any plagiarism is proved, apart from penalties imposed, I will refund entire amount of award.
b. No other incentive, reward or financial assistance has been provided by any organization to me for the work as indicated in S.No.1(a).
c. In order to avoid my publication with fake/bogus/predatory publishers and journals, I have carefully selected the journal after considering the latest information on the subject.
d. All the information provided above is true to the best of my knowledge and belief.
e. All the supporting documents submitted are authenticated.

Dated:_____ **Name & Signature of Applicant**

7. **Recommendations of Commandant/Principal of Institution**:

a. Peer review/ objective evaluation of research work:
b. Amount/share recommended for each author:
c. (only NUST authors are eligible)
d. Recommendations:

Dated:_____ **Signature:** _____

Name:_____

Designation:_____

8. **Remarks/Recommendations by Director (Research), NUST**:

_____

Signature of Dir (Research)

9. **Decision by Approving Authority**:

Approved / Not Approved

_____

Signature of Approving Authority

Appendix 2G

National University of Sciences and Technology

H-12, Islamabad, Pakistan, Phone: (051) 90851213 Fax: (051) 90851202

E-mail: research@nust.edu.pk

APPLICATION FORM FOR UNIVERSITY BEST RESEARCHER AWARD FOR THE YEAR (EVALUATION PROFORMA)

1. Particulars of Faculty Member
   a. Name of College/Institute/Centre:
   b. Department:
   c. Name of the Researcher:
   d. Discipline/Subject Category:
   e. Date of Birth:
   f. Present Appointment:

2. Highest Qualifications:
3. Area of Specialization/Research Interest:
4. R&D Profile and Publication — Weightage

   a. Research projects approved in the year of award by external agencies: 10%
      (1) No of projects:
      (2) Description of projects:

   b. Amount of Grant in Pak Rupees/(if in FE apply current exchange rate) obtained against projects: 20%
      (1) Amount:
      (2) Brief Description of Project:

   c. Research papers published in journals with Impact Factor and/or Indexed with ISI: 20%
      (1) No of Papers:
      (2) Papers be attached:
      Note: A chapter in a book will be equivalent to one research paper as above

   d. Research papers published in other recognized/indexed journals: 10%
      (1) No of papers:
      (2) Papers be attached:

   e. Books published (other than thesis publication): 10%
      (1) No of books:
      (2) Title of the Book:

(3) Contents of the Book:
(4) ISBN #:
(5) Brief Detail:

f. Presenting papers in Conferences and workshops/Seminars etc 5%
(1) Subject of the Conference:
(2) Duration/Time period"
(3) Technical Data:
(4) Proceedings Publication etc:
(5) Contribution:

g. Commercialization of R&D Output
(1) Amount of Revenue generated (Rs): 05%
(2) No of Patents filed/approved: 05%
Note: Credit will be given at the time of filing as well as approval of patent

h. PhD students Supervised/Under supervision 10%
(1) Student Name:
(2) Research/Thesis Topic:
(3) Year of Enrolment of student:
(4) Date of Graduation of student (if Graduated):
Note: Number should not exceed HEC criterion

j. Supervised and produced MS/M.Phil students: 05%
(1) Student Name:
(2) Research/Thesis Topic:
(3) Year of Enrolment of student:
(3) Date of Graduation of student (if Graduated):

Signature of Applicant

Countersigned by Comdt/Principal
Signature_____
Name_____
Designation_____

Note:

i. A claim with insufficient documentary proof will not be considered for points calculation.
ii. Publications, projects, research grants, patents, student supervision etc. related to NUST will only be considered.
iii. A nominee must have some scores in above atleast 04 categories and aggregate score of the nomination should not be less than 25% for the award.

Appendix 2H

National University of Sciences and Technology

H-12, Islamabad, Pakistan, Phone: (051) 90851213 Fax: (051) 90851202

E-mail: research@nust.edu.pk

APPLICATION FORM FOR SPONSORSHIP OF PUBLICATION CHARGES/FEE OF RESEARCH WORK/PAPER TO BE PUBLISHED IN JOURNAL

(Providing information against each column is mandatory)

1. **Publication Details:**
   a. Title of Book/Chapter/Paper:
   b. Title of Journal:
   c. ISBN/ISSN Number:
   d. Edition/Volume Number:
   e. Number of Pages Published:
   f. Address of Publisher:

2. **Indexation Details**

   a. ISI Indexed(Impact Factor)/ISI Master List/Scopus (Please attached copy of supporting documents):
   b. Indexation/Warehouse Website:
   c. URL/Visibility:

3. **Authorship Details:** (Please provide the details of all authors of the research paper)

   a. 1st Author
      (i) Name:
      (ii) Designation: (UG /MS/M.Phil /PhD Scholar/ Faculty Member/Research Staff)
      (iii) Contact No:
      (iv) e-mail Address:
      (v) Organization:
      (vi) Research Interest:
      (vii) Paper Published:

   b. 2nd Author
      (i) Name:
      (ii) Designation: (UG /MS/M.Phil /PhD Scholar/ Faculty Member/Research Staff)
      (iii) Contact No:
      (iv) e-mail Address:
      (v) Organization:
      (vi) Research Interest:
      (vii) Paper Published:

(To be continued depending upon number of authors)

4. **Confirmation of Acceptance/Publication:**

   a. Acceptance Letter:
   b. Reviewers Remarks:
   a. Copy of Camera Ready Research Paper to be provided:

5. **Invoice Details**

   a. Amount:
   b. Due Date:
   c. Details incentive/honorarium/sponsorship offered by any other Organization:

6. **Utilization/commercialization aspects of the research work at present and in future with plans and goals:**

7. **Undertaking by the Applicant**

I/we hereby undertake and affirm that

a. The publication has been checked for plagiarism. The substance of the book/chapter/research work/paper being published (as indicated in S.No.1(a) above) is based on the original research conducted by me/us. No sentence, equation, diagram, table, paragraph or section has been copied verbatim from previous work unless it is placed under quotation marks and duly cited. A verified copy of Turnitin Report is attached. In case any plagiarism in research work and fake/bogus/predatory journal is proved, apart from penalties imposed, I will refund entire amount of funds.
b. No other incentive, reward or financial assistance has been provided by any organization to me for the research work/paper.
c. I will inform Research Dte, if there is any alteration/addition or change in copy of camera ready research paper (provided with the case) for publication.
d. All the information provided above is true to the best of my knowledge and belief.
e. All the supporting documents submitted are authenticated.

_____.

Dated:_____ Name & Signature of Applicant

8. **Recommendations of Commandant/Principal of Institution:**

   a. Peer review/ objective evaluation of research work:
   b. Recommendations:

Signature_____
Name_____
Designation_____

Dated:_____

9. **Remarks/Recommendations by Director (Research), NUST:**

Signature of Dir (Research)

9. **Decision by the Approving Authority**:
Approved / Not Approved

Signature of Approving Authority

Appendix 2J

Monthly Research Update

Name of Institution _____ **For the Month of _____**

1. Project Proposals Submitted:

S.No	Project Title	Name of PI	Date of Submission	Funding Agency	Cost of Project	Duration of Project	Remarks

2. Projects Approved:

S. No	Project Title	Name of PI	Date of Approval	Funded By	Cost of Project	Approved Duration	Expected Start Date

3. Projects In-progress (All):

S.No	Project Title	Name of PI	Funded By	Cost	Progress % age	Reasons for Delay if Delayed

4. Projects completed:

S. No	Project Title	Name of PI	Funded By	Cost of Project	Research Papers		Student Produced		Product Developed	
					Prstd	Pblsd	PhD	MS	Developed	Patent

5. Equipments Procured:

S. No	Title of the Project	Name of Equipment	Model/Specs	Cost	Supplier	Remarks

6. Conference Research Papers:

S. No	Name of Authors (Please highlight NUST's authors)	Title of Paper	Title of Conference, dates, Country, Web-link etc.

7. Journal Research Papers:

S.No	Name of Authors (Please highlight NUST's authors)	Title of Paper	Title of Journal, ISSN, Volume, Number or Issue No, Pages No. and Date of Publication, Web-link

8. Book/Chapter Publication:

S.No	Name of Authors (Please highlight NUST's authors)	Title of Book/Chapter	Title of Book, ISBN, Edition No, Pages No, Date of Publication, Publisher and web link

9. Research Collaboration MoU Signed:

S. No	MoU Signing Organizations	Date of Signing	Kindly provide a copy of MoU

Signature _____

HoD (Research)

Stamp

Appendix 2K

Reports / Returns on Commercial Projects (Quarterly Return)

Name of the Institution _____

1. Project

SN	Project Title	National / International	College/School	MOUs/ Projects/Research Activities/Feasibility Study	Name of Department	Name of PI	Contact Details of PI	Collaborating Industry

2. Project Funding

SN	Project Title	Date of Submission	Date of Approval	Date of Completion	Source of Funding	Funds Approved	Funds Received

3. Projects Benefits to University

S N	Project Title	Paper Presented	Paper Published	Seminar/ Wksp / Conf Conducted	Study Reports	PhD Produced	MS/Mphil Produced	UG Produced	Any Lab Capabilities achieved	Eqpt Purchased	Qty	Cost in Rs.	Profit	Fin Benefit

4. Project Benefit to Industry

SN	Title	Benefit to Industry	Services Generated	Product Generated/Developed	IP Generated	Status	Comments

Signature _____

HoD (Research)

Stamp

Appendix 2K1

Employment Statistics of Recently Graduated Class (Biannually)

College:

Year:

Summary

Sr No	Total Graduated	Employed	Higher Education	Unemployed	

Student Details

Ser	Reg No	Name	CGPA	Email	Discp	Address	Cell No	Contact No	Organization	Status

Signature _____

HoD (Research)

Stamp

Appendix 2K2

Report/Return for HEC (On request)

Note: Annex 2, Annex 3 and Annex 4 to be filled by Schools/Colleges/Centres

Performance Matrices for ORIC
(2nd and subsequent years)

1. Name of the Institution:
2. Date of Establishment of ORIC:
3. Date of Assessment:
4. Summary of Assessment:

SN	Key Performance Indicator	Score Assigned	Scores* Obtained	Remarks
1	Work Environment and Human Resources	10**		
2	Research Support	35		
3	Capacity Building	25		
4	Commercialization of Research	30***		
	Total	**100**		

*****Based on the self-assessment at the following pages
****** Minimum mandatory score is 06 (out of 10) in Work Environment & HR Section
*******Minimum mandatory score is 15 (out of 30) in Research Commercialization Section

5. Ranking of the ORIC: **W**

Ranking Criteria

Category	Score	Performer Scale
W	75 and above	Top Performers
X	60 – 74	Satisfactory Performers
Y	40- 59	Below Average
Z	1 - 39	Poor Performers

Declaration:

This is to certify that all the information given in this form is correct and true to the best of my knowledge and belief.

Date and Stamp **Signature (Director ORIC)**

Date and Stamp **Counter Signature (Vice Chancellor/Rector)**

PERFORMANCE MATRICES FOR ORIC

SN	Key Performance Indicator	Parameters/Items	Max. Scores	Scores Obtained	Documentary Evidences	
1	**Work Environment and Human Resources (Max. Score 10)**					
(i)	Available facilities	Fully furnished office	02	02	Physical Visit Report	
		ICT facilities in ORIC (Computers, phone, internet etc.)	01	01		
(ii)	Human Resources	Director (full time)	02	02	**As per format attached**	Appointment letter/ Notification / Joining Report against each (ORIC having less than 6 scores in this section will not qualify for further assessment)
		Manager Research Operation /equivalent position (full time)	01	01		
		Manager Research Development /equivalent position (full time)	01	01		
		Manager University Industry Linkages and Technology Transfer / equivalent position (full time)	01	01		
		Administrative Assistant (full time)	01	01		
		Research Associates/ Assistant / staff (full time)	01	01		
	Sub-Total (1)		**10**	**10**		
2	**Research Support (Max. Score 35)**					
(i)	Number of research proposals approved for funding by HEC.	If the number of such proposals is equivalent to the: 1-4% of total existing faculty 5% and above of total existing faculty	 02 06	06	**As per format attached**	Copy of award letter HEC
(ii)	Number of research	If the number of such proposals is equivalent to the:				Copy of award letter from the

	proposals approved for funding (other than HEC)	1-4% of total existing faculty 5% and above of total existing faculty	02 05	05		sponsoring organization
(iii)	Number of joint research projects approved.	At national level: 1- 4 5 and above	02 04	04		Copy of award letter
		At international level: 1- 4 5 and above	02 04	04		
(iv)	Number of research links established with other HEIs	At national level: 1- 4 5 and above	02 04	04		Copy of MoU / Agreement etc.
		At international level: 1- 4 5 and above	02 04	04		
(v)	Number of research articles presented in national & international conferences & Seminars.	If the number of such articles is: 1-9 10 and above	02 04	04		Copy of the conference program and first page of the research articles as published in proceedings of the program.
(vi)	Maintain a comprehensive and centralized Research Database.	If it is maintained in Excel Sheet/ MS Access etc. If any customized software is being used for it	03 04	04		Physical Verification MS Excel Enterprise Resource Planning (ERP) Snapshots attached
	Sub Total (2)		**35**	**35**		
3	**Capacity Building (Max. Score 25)**					
(i)	No. of trainings/ workshops / seminars arranged on entrepreneurship, commercialization, innovation etc.	1-4 5 and above	02 04	04	**As per format provided**	Copy of Brochures/Leaflet / Letters/program details etc.
(ii)	No. of workshops/ seminars arranged at national or International level [other than those given under 3 (i) above]	1-9 10 and above	04 06	06		Copy of Brochures/Leaflet / Letters/program details etc.
(iii)	Participation of					Certificate of

	faculty/students in training workshop /seminar on entrepreneurship, commercialization innovation etc. arranged by other institutions/HEIs	1-4 5 and above	02 04	04		participation
(iv)	Participation of faculty in training workshop/ seminar arranged by other institutions/HEIs	If the number of such trainings attended is: 1-4% of total existing faculty 5% and above of total existing faculty.	02 04	04		Certificate of participation/copy of paper as published in proceedings
(v)	No. of training workshops/ seminars attended by ORIC personnel	1-4 5 and above	01 02	02		Certificate of participation
(vi)	University has incorporated Entrepreneurship as Optional Course in syllabi	No Yes	0 05	05		Copy of the program/syllabus etc.
	Sub Total (3)		**25**	**25**		
4	**Research Commercialization (Max. Score 30)**					
(i)	Development of Research/ Intellectual Property/ Innovation policy of the institution	If the process for preparation of draft has been Initiated If the draft has been Completed If the draft has been approved by statutory body	02 03 04	04	**As per format provided**	Notification to initiate the process/Composition of committee for the task or any other
(ii)	Webpage for ORIC reflecting all the activities	If webpage exists and contains only contact information of Director ORIC + reflects updated research activities If the webpage reflects also the updated available research expertise and equipment of each Department then If the webpage also reflects the updated success stories	02 04 06	06		Webpage link

(iii)	Ideas Competition/ Innovation/ entrepreneurial competition held	Ideas Competition	02	02		Copy of Brochures/Leaflet / Letters/program details etc.
		Innovation/ entrepreneurial competition	03	03		
(iv)	No. of links established with industrial & corporate sector	1 – 4 5 and above	02 03	03		Copy of MoU/ Contract/ Agreement
(v)	No. of patent/designs/ formula/approved varieties	1-4 5 and above	02 03	03		Copy of approval letter/patent grant letter
(vi)	No. of business plans developed	1 – 4 5 and above	02 03	03		Copy of the patent acceptance letter
(vii)	No. of research products/ process gone into prefeasibility/ prototype development	1-2 3 and above	02 03	03		Any relevant documents
(viii)	Establishment of Incubation Centers	If establishment in process If it is already established	02 03	03		Notification/ letter indicating date of its establishment or process initiation
	Sub Total (4)		**30**	**30**		

Table of Contents

R#	Contents		Page # documentary Evidence
1.Work Environment and Human Resources			
ii	Director		
	Manager Research Operation / equivalent position		
	Manager Research Development / equivalent position		
	Manager University Industry Linkages and Technology Transfer		
	Administrative Assistant		

	Research Associates/ Assistant		
2.Research Support			
i	Number of research proposals approved for funding by HEC		
ii	Number of research proposals approved for funding from other than HEC Source		
iii	Number of joint research projects approved at National Level		
	Number of Joint research projects approved at International Level		
iv	Number Research links established with other HEIs (National)		
	Number Research links established with other HEIs (international)		
v	Number of research articles presented in national/international conferences/Seminars		
vi	Maintain a comprehensive and centralized Research Database.		
3-Capacity Building/HR Development			
i	No. of Trainings /workshops/Seminars arranged on Entrepreneurship, commercialization, Innovation etc.		
ii	No. of workshops/Seminars arranged at International or National level [other than those given under 3 (i) above]		
iii	Participation of faculty/student / in training workshop/Seminar on entrepreneurship, commercialization, Innovation etc. arranged by other Institutions/HEIs.		
iv	Participation of faculty/student / in training workshop/Seminar arranged by other Institutions/HEIs.		
v	No. of training workshops/seminars attended by ORIC Personnel		
vi	University has incorporated Entrepreneurship and Innovation as Optional Course in syllabi		
4-Research Commercialization			
i	Development of Research/IP/Innovation policy of the institution		
ii	Webpage for ORIC reflecting all the activities		
iii	Number of Ideas Competitions /Innovation /Entrepreneurial competition		

	held		
iv	No. of links established with industrial and corporate sector		
v	No. of patent/designs/ formula/approved varieties		
vi	No. of business plans developed		
vii	No. of research products/process gone into prefeasibility/ prototype development		
viii	Establishment of Incubation Centers		

HUMAN RESOURCES

SN	Name	Designation	Qualification	Date of Joining	Evidence at Page No.

SN	Total number of Sanctioned Posts (Faculty only)	Total Number of Existing Faculty	Total number of vacant Posts (Faculty only)

RESEARCH SUPPORT

(i) Number of Research Proposals approved for funding by HEC

SN	Title of Research Proposal	Amount Approved (Rs.)	Date of Approval	HEC Ref. No.

(ii) Number of research proposals approved for funding (other than HEC Source/Funding)

SN	Title of Research Proposal	Amount Approved (Rs.)	Date of Approval	Sponsoring Agency	Page No. of Evidences

(iii) Number of Joint Research Projects approved

SN	Title of Research Projects	Amount Approved (Rs.)	Date of Approval	Sponsoring Agency	Collaborating Partner	Page No. of Evidences
National						
International						

(iv) Number of Research Links Established with other HEIs.

SN	Name of host Department	Collaborating Agency/Institution	Scope of Collaboration	Date of Link Established	Page No. of Evidences
National					
International					

(v) Number of Research Articles/Papers presented in National/International Conferences/Seminars.

SN	Author(s)	Title of Paper	Title of Conference	Date & Venue of Conference (Country/City)	Page No. of Evidences
National					

International					

CAPACITY BUILDING

(i) Number of Trainings/Workshops/Seminars arranged on entrepreneurship, commercialization and innovation

SN	Title of Workshop/ Training	Date of Event	No. of Participants	Major Focus Area	Audience Type (student /faculty /staff)
National Workshops/ Trainings					
International Workshops/ Trainings					

(ii) Number of Workshops/Seminars arranged at National or International level [other than those given under 3 (i) above].

SN	Title of the Training /workshop	Date of Event	Major Area of Training	Number of Participant	Audience Type (student /faculty /staff)
National					
International					

(iii) Participation of Faculty/students in Training/Workshops on entrepreneurship, commercialization and innovation etc. arranged by other HEIs.

SN	Title of the Training /workshop	Date of Event	Name of HEI	Major Area of Training	Number of Participant	Audience Type (student /faculty)

(iv) Participation of Faculty in Training/Workshops/Seminars arranged by other HEIs.

SN	Title of the Training /workshop	Date of Event	Name of HEI	Major Area of Training	Number of Participant	Audience Type (student /faculty)

(v) Number of trainings, workshops/seminars attended by ORIC personnel

SN	Name of Participant & Designation	Title of the Workshop & Venue	Date of Event	Major Area / discipline	Organized by

(vi) University has incorporated "Entrepreneurship" as optional course in syllabi

SN	Title of Course	Couse level (undergrad/ postgrad)	Credit Hours	Number of disciplines in which course is taught

MEASURES TAKEN FOR RESEARCH COMMERCIALIZATION

(i) Development of Research/Intellectual Property /Innovation policy of the Institution

SN	Title of IP/Innovations policy	Draft Status; Initiated/Prepared /Approved	Date Initiated/Prepared /Approved

(ii) Webpage for ORIC reflecting all the activities

SN	Short link for the ORIC Webpage	List of activities (including list of available expertise and equipment) being reflected on the webpage	Contact information reflected on webpage

(iii) Ideas competition /innovation/ entrepreneurial Competitions held

SN	Title of competitions	No. of Participant	Date & Venue	Page No. of Doc. Evidences
Ideas Competition				
Innovation/Entrepreneurial Competition				

(iv) Number of Links established with Industry /Corporate Sector

SN	Title of the collaboration	Name of Industrial/ Business Partner	Date of link established	Department of university with which link has been established	Major Area of linkage	Page No. of Doc. Evidences

(v) No. of Patent/Designs/Formula/approved varieties.

SN	Title of patent /designs /formula	Name of the Principal Investigator	Date of filing/approval / issue	Approving /granting authority	Major Area	Page No. of Doc. Evidences

(vi) Number of Business Plans Developed

SN	Title of Business Plan	Name designation of Developer	Date of approval	Approving authority	Major Area

(vii) Number of research products/process gone into prefeasibility /prototype development

SN	Title/Name of the Product or Process	Principal Investigator	Research project title under which product or process is being developed	Current Status

(viii) Establishment of Incubation Centers

SN	Status of Establishment (already established or in process)	If established list of Companies Incubated	List of Companies Graduated	No. of HRs Working.	Page No. of Doc. Evidences