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MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY

(A State Univ. Estd. by Govt. of Punjab vide Punjab Act No. 5 of 2015 and Approved u/s 2(f) & 12 (B) of UGC; Member AIU)

Bathinda-151001 (Punjab), India

HANDBOOK ON ATTRACTING VARIOUS DEVELOPMENT FUNDING OPPORTUNITIES

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2021

INTERNAL QUALITY ASSURANCE CELL
MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY
BATHINDA 151001

HANDBOOK ON ATTRACTING VARIOUS DEVELOPMENT FUNDING OPPORTUNITIES

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INTERNAL QUALITY ASSURANCE CELL

Handbook on Attracting Various Development Funding Opportunities

DISCLAIMER

The information in this handbook is based on public information uploaded on different websites. This booklet serves the purpose of guidance and information to simplify access to the relevant information on various funding sources according to the needs of the potential beneficiaries. Although great care was taken that the information in this handbook is correct at the time of its publication, the information contained herein is subject to change. Beneficiaries should also visit the concerned websites of the various funding agencies for any further updates and information. This booklet is for information purpose only.

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Preface to Handbook

Research and Innovation is need of the hour. The technology which is outcome of any research is going to be the futuristic skill set. On common parlance, it is opined that the future of the planet depends on research ethics and focus of the research must be centered to Sustainable Development Goals. Research and innovation offer solutions to overcome various challenges globally which can be addressed effectively with funding opportunities and research infrastructure.

Looking at the immense importance of research and development the present compilation entitled as “Handbook on attracting various development funding opportunities” is an outcome of the cumulative effort of Team, MRSPTU, Bathinda. This handbook enables the potential applicants to identify the most suitable choices amongst the relevant programmes and directs to the relevant source of information for further details. The Handbook is divided into 06 chapters covering all the aspects of funding resources.

Research and Development Cell
Maharaja Ranjit Singh Punjab Technical University,
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Chapter 1

Funding opportunities from Rashtriya Uchchatar Shiksha Abhiyan (RUSA)

1.1 Infrastructure Grants to Universities

Infrastructure grants shall be utilized for meeting critical infrastructural requirements in 50 public universities with a grant of Rs.20 crore each.

1.1.1 Funding Criteria

I. Universities with valid NAAC accreditation of 2.5-3.25 will be eligible.

II. Grant will be provided to support for strengthening of infrastructure facilities for new construction, renovation and purchase of equipment.

III. Beneficiary Universities under RUSA 1.0 for the same component will not be considered. Universities from north east and Himalayan region would be considered after taking into consideration universities which have not availed of this in the earlier phase.

IV. Universities would be further prioritized on basis of NAAC accreditation, enrolments & antiquity.

V. The State can spend maximum 50% of the total cost in case of new construction, renovation/upgrade and equipment each. For e.g., the expenditure ratios could be 40:50:10; or 50:30:20; or 45:45:10, etc.

1.2 Quality and Excellence in Select State Universities (new)

Universities with NAAC CGPA 3.51 and above under the UGC's Graded Autonomy Regulations, 2018 will be supported to enhance quality, teaching and research. 10 high performing state universities will be supported under this component at Rs. 100 crores each.

1.2.1 Funding Criteria

I. State Universities which feature in UGC's Graded Autonomy Regulations, 2018 (Grade 1) will be covered for support under this component.

II. No more than 30% would be spent on construction and equipment.

III. Financial assistance will be given for quality enhancement and improvement in teaching and research.

IV. Institutions approved under the component will need to mentor other institutions.

1.3 Research, Innovation & Quality Improvement

During the current plan period, 20 State Universities who have demonstrated excellence in two or three thematic areas will be supported up to an amount of Rs. 50 crores each through a project-based funding mode with focus on theoretical/empirical and applied R&D to foster innovation and evidence-based policy in certain areas of national priorities.

1.3.1 Eligibility Criteria

I. Only Grade I and II State Universities qualifying under the UGC Graded Autonomy Regulations, 2018 will be considered for support.

II. Research, Innovation and Quality Improvement will focus on fostering innovation, entrepreneurship and employability. States will be encouraged to prepare a Research and Innovation Plan (RIP).

III. Selection of universities will be on challenge /competitive mode and will largely emerge from universities in collaboration with the DST/DBT, National Laboratories/ leading humanities and social science research centers and industry.

IV. Universities having undertaken curriculum reforms in one of their flagship departments in the last one year.

1.4 Equity Initiatives

Assistance should be provided for construction of hostels for SC, ST and Girl students. 15 States will receive funds under this component. All State universities and colleges will be eligible to receive grants for equity initiatives. Innovative approach/schemes to ensure greater inclusion will be considered on priority. Each State would be funded an amount of Rs. 5 crores.

1.4.1 Funding Criteria

I. Girls hostels and related support will be given priority.

II. To improve education of the most vulnerable and marginalized sections, this initiative will address State as a Unit.

III. Financial assistance will be provided in addressing gender disparities, education through language labs and remedial coaching for socially-economically marginalized groups.

IV. The component would be conditionally approved with release of funds subject to submission of DPR by State.

V. Institutions which have received support under RUSA 1.0 for construction/ renovation of hostels in other components will not be eligible for consideration under this component.

VI. North eastern and Himalayan States will be considered favorably under this component.

1.5 Future Commitments

I. Adherence to need-based admission of students.

II. 50% of hostel seats should be reserved for socially and economically weaker sections.

III. Adherence to the reservation policy of state government in admission and faculty recruitment.

IV. Financial outlay each state would be given an amount of Rs. 5 crores.

1.6 Faculty Recruitment Support

I. Name of the Component: -Faculty Recruitment Support

II. Eligible amount under RUSA: - The faculty salary as per the seventh pay commission recommendations for Assistant Professor/ Lecturer will be provided to 200 faculty positions in regular and permanent mode for a period of two years.

III. Total No. of faculty position to be supported: - 200 faculty position to be supported till March 2020.

IV. Timeline: -State must commit to take over the liability of faculty positions at the end of the scheme.

1.6.1 Priority for funding

I. Priority will be given to those states which have filled all their vacant sanctioned positions. After filling the positions, RUSA would assist the states in hiring additional faculty to bring the student-teacher ratio to 20:1.

II. For new institutions created under RUSA: RUSA may support faculty positions in new institutions created under RUSA, only after the state fills all the vacant positions (up to 85%) through regular recruitment and brings the STR to 25:1.

1.7 Faculty Improvement

HRDCs (Human Resource Development Centre) will be given funds to improve infrastructure and resources for training and capacity-building activities. In RUSA 2.0, a total of 8 States will be funded Rs 7 crores each.

1.7.1 Funding Criteria

I. Funding would be provided to those Academic Staff Colleges which are categorized as 'Performers' in the UGC review process.

II. Support will be provided to Academic Staff College (now called Human Resource Development Centers) for Capacity Building of faculty in Colleges and Universities.

III. Financial assistance will be provided to improve pedagogy, instructional design, refresher, orientation and teacher training programs for faculty

IV. The performing HRDCs who have not received funding under RUSA 1.0 will be prioritized.

V. Those HRDCs who have received funding under RUSA 1.0 will also be eligible for funding, provided they are able to show demonstrable quality outcomes- no. of training programs conducted, >75% utilisation of total resources disbursed, innovative programs for teachers and in-service training of teachers, etc. Funding would be provided for the facilities which are not supported by UGC for enhancing the skills and domain knowledge of faculty in State Universities and Colleges.

1.8 Institutional Restructuring, Capacity Building and Reforms

Funds will be provided to 30 States and Union Territories (depending on the size of the States) to enable them to create/strengthen necessary institutional framework for efficient and effective sectoral reforms, to the tune of Rs. 3 crores. These funds can be utilized for setting up/strengthening State Higher Educational Councils, State Resource Centers and State Project Directorate. Large State- 5 crores Medium States- 4 crores Small States- 3 crores

1.8.1 Funding Priorities

I. Funding under this component will be provided to states who have been able to utilise over 75% of the earlier allocation on a first-cum-first basis.

II. The States can utilize these resources in Undertake baseline surveys, Data collection and compilation

III. Organise meetings, consultations, workshops, trainings, Hire consultants, Preparation of State perspective plans/strategy report, organizing meetings, consultations, workshops, trainings, hiring consultants and other preparatory work to prepare the State for the reforms and for setting up/strengthening State Higher Educational Councils, State Resource Centers and State Project Directorate.

Funding Priority

a. Those States will be preferred who submit the utilisation certificate of 2nd instalment of preparatory grants disbursed under RUSA 1.0.

b. Second priority would be given to States who submit utilisation certificate for 1st instalment of preparatory grants under RUSA 1.0.

For further details http://rusa.co.in/pdf/training/RUSA%202.0%20Guidlines.pdf

Chapter 2

University Grant Commission (UGC)

2.1 Development of Women Study Centers in Indian Universities and Colleges

Introduction

Development of women studies centres in Indian universities & colleges is meant to help India achieve her UN sustainable development goal of promoting equality & empowerment of women. Gender equality, empowerment of women and addressing diverse needs of women requires enabling communities, enabling policies and enabling programmes of the government. Women studies centres have special focus on most marginalized /disadvantaged women in the society. These include women from schedule caste and tribes, women with disabilities, women living in unsafe environments, exploited sex workers, women living in conflict areas, Women in conflict with law, Homeless, destitute & abandoned women, uneducated & unskilled single women, elderly & sick women etc. A women study centre must pursue a comprehensive, critical and balanced understanding of India's socioeconomic realities & governance.

Its essential components include:

i. Women's contribution to society & social processes
ii. Women's perception of their own lives, the broader social reality and their struggles and aspirations.

Scheme

I. Vision

To empower women in India to live with dignity so that they can contribute as valued partners in sustainable development of the self, families and the nation.

II. Mission

To support efforts of the state to create an environment for women that is inclusive, free from violence and discrimination and one that promotes social and economic empowerment of women by creating awareness amongst women about their rights.

III. **Eligibility criteria**

The government aided universities and colleges recognized under section 2(f) & 12(B) of the UGC Act, 1956

Focus areas of women studies

i. Build new knowledge on women in national and global perspectives
ii. Build curriculum in women studies to meet the diverse needs of Indian women with focus to develop inclusive society.
iii. Suggest methods to build a conducive environment for women to take up positions of leadership in diverse sectors.
iv. Conduct evidence-based research on 'Women and Economic Development'.
v. Strengthen existing knowledge and build new knowledge on 'Women in Indian Perspective' (to address current and future challenges).
vi. Conduct research on women's contribution to science and technology & suggest methodology to enhance it.
vii. Suggest methods to promote inclusion of women in development of all sectors including disadvantaged women, women with disabilities and other vulnerable groups.
viii. Measures to strengthen urban/rural linkage and slum development.

Some suggested activities

Teaching

I. Women's studies centres shall conduct foundation course/ short-term courses in women's studies for all undergraduate students in all universities, professional and technical institutions. Emphasis should be given on the development of online courses for wider outreach.
II. Curriculum development: to incorporate women's dimension into courses in different disciplines.
III. Workshops to plan restructuring of courses and syllabus formation.

Research

i. WSCs shall take measures to build the research capabilities of their faculty. This shall include data mining, review of literature, action research method, feminist research methods (i.e. oral history/ life history methods), statistical analysis, writing and research papers.
ii. WSCs shall undertake field action research studies in following areas:

a. Generation of primary data using various government and non-government schemes/ surveys.
b. Conducting studies to develop indicators relevant to Indian context on Women Empowerment and Leadership.
c. Gender gap analysis (Gender gap includes issues concerning women, men and transgender in different states of India).
d. Best practices on inclusion of women in economic and social development with specific reference to Sustainable development goals.
e. Evaluation of development projects to document the contemporary challenges for the inclusion of women and their impact on their lives.
f. Public Policy analysis of existing legislation, schemes and projects related to women.
g. Community based research on women/ archival research.

Training

i. Workshops on the process and challenges in implementation of guidelines.
ii. Workshops on innovative/feminist research methodology.
iii. Workshops on inclusion of issues concerning women in various disciplines at UG/PG in different Universities.
iv. Workshops on community as change agents. The duration of the workshop shall be minimum of one day

For further details

https://www.ugc.ac.in/pdfnews/3849681_Guidelines-for-Womens-Studies-Centres-for-Universities-and-Colleges-05-03-2019.pdf

2.2 Guidelines for providing Skill Based Education under National Skill Qualification Framework

Introduction

Skills and knowledge are the driving forces of economic growth and social development for any country. Presently, the country faces a demand – supply mismatch, as the economy needs more 'skilled' workforce than that is available. In the higher education sphere, knowledge and skills are required for diverse forms of employment in the sector of education, health care

manufacturing and other services. Potentially, the target group for skill development comprises all those in the labor force, including those entering the labor market for the first time, those employed in the organized sector and also those working in the unorganized sector. Government of India, taking note of the requirement for skill development among students launched National Vocational Education Qualification Framework (NVEQF) which was later on assimilated into National Skills Qualifications Framework (NSQF). Various Sector Skill Councils (SSCs) are developing Qualification Packs (QPs), National Occupational Standards (NOSs) and assessment mechanisms in their respective domains, in alignment with the needs of the industry. In view of this, the UGC implemented the scheme of Community Colleges from 2013-14 in pilot mode on the initiative of the MHRD. Thereafter, realizing the importance and the necessity for developing skills among students, and creating work ready manpower on large scale, the Commission decided to implement the scheme of Community Colleges as one of its independent schemes from the year 2014-15. The Commission also launched another scheme of B.Voc. Degree programme to expand the scope of vocational education and also to provide vertical mobility to the students admitted into Community Colleges for Diploma programmes to a degree programme in the Universities and Colleges. While these two schemes were being implemented, it was also realized that there is a need to give further push to vocational education on a even larger scale. Accordingly, 'Deen Dayal Upadhyay Centres for Knowledge Acquisition and Upgradation of Skilled Human Abilities and Livelihood (KAUSHAL)' was also incorporated. Since all these three provisions serve a common purpose, all these schemes are merged into a single scheme for providing skill-based education under National Qualification Framework.

National Skill Qualification Framework

The National Skills Qualifications Framework (NSQF) is a competency-based framework that organizes qualifications according to a series of knowledge, skills and aptitude. The NSQF levels, graded from one to ten, are defined in terms of learning outcomes which the learner must possess regardless of whether they are obtained through formal, non formal or informal learning. National Occupational Standards (NOS) are statements of the skills, knowledge and understanding needed for effective performance in a job role and are expressed as outcomes of

competent performance. They list down what an individual performing that task should know and also are able to do. These standards can form the benchmarks for various education and training programs to match with the job requirements. Just as each job role may require the performance of a number of tasks, the combination of NOSs corresponding to these tasks form the Qualification Pack (QP) for that job role. The NOSs and QPs for each job role corresponding to each level of the NSQF are being formulated by the respective Sector Skill Councils (SSCs) set up by National Skill Development Corporation (NSDC) with industry leadership.

The curriculum which is based on NOSs and QPs would thus automatically comply to NSQF. The specific outcomes expected from implementation of NSQF are as follows: a) Mobility between vocational and general education by alignment of degrees with NSQF b) Recognition of Prior Learning (RPL), allowing transition from non formal to organized job market c) Standardized, consistent, nationally acceptable outcomes of training across the country through a national quality assurance framework d) Global mobility of skilled workforce from India, through international equivalence of NSQF. e) Mapping of progression pathways within sectors and cross sect orally f) Approval of NOS/QPs as national standards for skill training

Type of Courses and Awards

There will be full time credit-based modular programmers, wherein banking of credits for skill and general education components shall be permitted so as to enable multiple exit and entry. The multiple entry and exit enable the learner to seek employment after any level of Award and join back as and when feasible to upgrade qualifications / skill competencies either to move higher in the job profile or in the higher educational system.

This will also provide the learner an opportunity for vertical mobility to second year of B.Voc degree programme after one year diploma and to third year of B.Voc degree programme after a two year advanced diploma.

The students may further move to masters and research degree programmes mapped at NSQF Level 8-10.

For further details

https://www.ugc.ac.in/pdfnews/6556003_Guidelines-for-providing-Skill-Based-Education-under-NSQF.pdf

Chapter 3

Ministry of Food Processing Industries (MOFPI)

3.1 PMKSY Scheme

Introduction

Government of India (GOI) has approved a new Central Sector Scheme – Pradhan Mantri Kisan SAMPADA Yojana (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters) with an allocation of Rs. 6,000 crores for the period 2016-20 coterminous with the 14th Finance Commission cycle. The scheme will be implemented by Ministry of Food Processing Industries (MoFPI).

3.1.1 Pradhan Mantri Kisan SAMPADA Yojana

PM Kisan SAMPADA Yojana is a comprehensive package which will result in creation of modern infrastructure with efficient supply chain management from farm gate to retail outlet. It will not only provide a big boost to the growth of food processing sector in the country but also help in providing better returns to farmers and is a big step towards doubling of farmers income, creating huge employment opportunities especially in the rural areas, reducing wastage of agricultural produce, increasing the processing level and enhancing the export of the processed foods.

3.1.2 Food safety & quality assurance infrastructure

Quality and Food Safety have become competitive edge in the global market for food products. For the alround development of the food processing sector in the country, various aspect of Total Quality Management (TQM) such as quality control, quality system and quality assurance should operate in a horizontal fashion. Apart from this, in the interest of consumer safety and public health, there is a need to ensure that the quality food products manufactured and sold in the market meet the stringent parameters prescribed by the food safety regulator. Keeping in view the aforesaid objectives, government has been extending financial assistance under the scheme under the following components:

3.1.3 Setting up/up-gradation of quality control/food testing laboratories

In the interest of consumer safety and public health, there is a need for testing food products in order to ensure that it complies with domestic standards as well as international standards for

exports. There is also a need for testing of all imported food products to ensure that they are of the requisite standard and food products not permitted for manufacture domestically are not allowed to come in from foreign markets. Apart from this, the level of contaminants, additives, and pesticide residues in food items is required to be monitored regularly. Therefore, a network of food testing and analysis laboratories is required to support the surveillance system of food regulator, timely analysis of samples and ensure compliance of international and domestic standards on food in case of exports as well as imports.

Under the scheme, Central/ State Government and their organizations/ Government universities (including deemed universities) and all other implementing agencies/private sector organizations/universities (including deemed universities) are eligible to receive financial assistance for setting up of food testing laboratories.

3.1.4 HACCP/ ISO standards/food safety/quality management systems

HACCP, ISO Standards are necessary condition for improving the overall quality of food safety & hygiene in the country and also to increase India's share in global food trade. The main objective of the scheme is to motivate the food processing industry for adoption of food safety and quality assurance mechanisms such as TQM including ISO 9000, ISO 22000, HACCP, GMP, GHP. This will enable adherence food processors to the stringent quality and hygiene norms thereby protecting the health of consumers, enhance product acceptance by buyers, both domestic & overseas and keep Indian industry technologically abreast of international best practices.

Central/ State Government Organization, IITs, Universities and private sector in the field of food processing sector are eligible for assistance under the scheme for implementation of HACCP/ ISO Standards / Food safety/ Quality Safety Management Systems.

Grant-in-aid is given in the form of re-imbursement of expenditure towards implementation of HACCP/ ISO Standards/ Food safety/ Quality Management Systems @ 50% in general area and @ 75% in NE Region and difficult areas of eligible project cost subject to maximum of Rs. 17 lakh and 22 lakhs respectively. With a view to clear the pending proposals, the Ministry has not been accepting fresh application as a temporary measure.

3.1.5 HACCP projects assisted by ministry of food processing industries

Quality Council of India has launched two Certification schemes namely “India GHP” and “India HACCP” based on globally accepted Codex Standards for adoption by food manufacturers and supply chain operators. These schemes will help India food chain related industry to demonstrate compliance to global standards without having to go for costly and time consuming foreign certifications as many countries have mandated Haxaed Analysis Critical Control Point (HACCP) for high risk sectors like meat, fish, dairy etc. and most developed countries have also mandated Good Hygienic Practices (GHP) across all food sectors.

For further details https://mofpi.nic.in/Schemes/about-pmksy-scheme

Chapter 4

Department of Science and Technology (DST)

Introduction

The Scheme “Fund for Improvement of S&T Infrastructure (FIST)” is intended to provide basic infrastructure and enabling facilities for promoting R&D activities in new and emerging areas and attracting fresh talents in universities & other educational institutions. It is considered as complimentary support for enabling Departments/ Centers/ Schools/ Colleges to pursue research activities more effectively and efficiently.

DST is restructuring the immensely successful FIST programme to orient it towards the goal of Atmanirbhar Bharat by creating R&D infrastructure not only for R&D activities in academic organizations but also for use by the start-ups/ manufacturing industries/ MSMEs. Appropriate mechanisms including use of the FIST facilities through multiple shifts have been communicated to the beneficiaries through a public notice to promote optimal utilization of these resources.

The beneficiary organizations need to display a Public Notice exhibiting the FIST Logo to represent the face of the restructured FIST Program. They also need to connect with the I-STEM (Indian - Science Technology and Engineering Facilities Map) portal to display the utility and availability of slots of different facilities in their premises, for sample analysis by researchers outside the host organization.

4.1 Nature of support

The Scheme will provide optimal infrastructure facilities for post-graduate and higher research, such as, renovation of existing laboratory space (no fresh constructions) and cold room, modernization of laboratories involved in PG and higher research, acquisition of essential equipment, up-gradation of existing facilities, networking & computational facilities including software & databases, scientific & technical books, maintenance & refurbishing of existing and new facilities etc. The facilities provided under the Program are intended to support the efforts of the Department as a whole or a number of faculty members in the Department. Proposal towards individual R&D support are not accepted under this Scheme. The synergy and focus of research may preferably be aligned to National Missions/ priorities.

4.1.1 Duration

The duration of support for each FIST Project is for a period not exceeding 5 years.

4.1.2 Type of support

Currently, there are four types of support corresponding to four different levels. These are as follows:

i. Level – 0: Proposals from active PG Colleges (Govt./ Govt. aided/ Private) (having eligibility as specified for Level-0) shall be considered for a maximum support of up to Rs. 1.50 crores for establishing research facilities for the S & T for 5 years duration.

ii. Level – 1: Proposals from relatively small but active post-graduate S&T Department from different Universities (having eligibility as specified for Level-1) and degree awarding academic Institutions requiring moderate funding for improving quality of research. The support would be up to Rs 3.0 crores for 5 years duration for augmentation of research facilities to a Department/ School/ Centre

iii. Level – 2: Proposals from well-established S&T Department from State/ Central Universities and degree awarding academic Institutions (having eligibility as specified for Level-2) with high repute requiring substantial funding (upper limit - Rs.5.0 crores for 5 years duration) for acquiring state-of-the-art equipment & setting up laboratories for conducting internationally competitive research.

4.1.3 Eligibility

For University / Degree awarding academic institutions, the support will be considered for the 'Department / School / Center' as a unit. All Science (including Medical & Agriculture) and engineering departments/ centres having strong PG research programs which have existed for at least 3 years or more in universities and other higher educational institutions recognized or regulated by UGC/ AICTE and/or MHRD/ State Education Department based, are eligible seeking support for the 1st time. All other agency based academic University/ Institutes are excluded from the scope of FIST support.

For any subsequent cycle of FIST support following 1st cycle of support at any level, henceforth all such beneficiaries would be considered for repeat cycle of FIST support only after a period of 10 years from the date of sanction of the immediately preceding project. Further eligibility parameters and criteria for considering a proposal for support under FIST Program are based on the type of support and are provided, subsequently.

4.1.4 Criteria for proposals to be considered for support under FIST program

Level – 0

i. Funding at this level is up to Rs 1.50 Crore for 5 years duration,
ii. College should be among top 150 NIRF ranking (in any category, only for S&T related Departments),
iii. College should be NAAC (B+)/ NBA accredited,
iv. College should have existed at least for 3 years
v. The PG College should have at least 2 ongoing EMR grants worth Rs 50.0 lakhs in last 5 years.
vi. Minimum number of students shall be PG Programs (15) & UG Programs (30),
vii. Average number of Faculty at PG level shall be 4 across Departments with good quality
viii. Evidence of research in the PG Department (s) of the College,
ix. In case of Non-Govt., the College should have at least 4 PhD students pursuing their PhD as full time Research Scholar and receiving their fellowships either by virtue of NET/GATE qualification or holder of Institute/any other agency fellowship.

Level – 1

i. At this level funding is up to Rs 3.0 Crores for 5 Years duration for moderate research activities,
ii. Departments in: i) State Universities; ii) Departments applying for 1st time from Central Universities/ Academic Institutions,
iii. Departments in Central Universities/Academic Institutions applying for repeat support after completing 1st FIST Project need to be less than 15 years in existence
iv. Departments from all IITs, IISc, IISERs & AIIMS would not be considered for Level 1 support,
v. Department should have existed at least for 3 years,
vi. Number of core faculty members having Ph D degree should be five (5) or more
vii. The Department should have at least 2 ongoing EMR grants worth Rs 100.0 lakhs,
viii. The Department should have at least 1 faculty with i-10 index of 1 publication in last 5 years, Publications, Patents etc
ix. Awards received by the Faculty Members of the Department/ Centre Projected Research Plan for next 5 Years,
x. In case of Non-Govt. University/ Institute/ College, departments of the University or "College as a whole" should have at least 6 students at the PhD level pursuing their PhD as full time

Research Scholar and receiving their fellowships either by virtue of NET/GATE qualification or holder of Institute/any other agency fellowship.

Level – 2

i. At this level funding is up to Rs 5.0 Crores for 5 Years duration,
ii. Departments in: i) State Universities, ii) Departments in Central Universities / All Academic Institutions (more than 15 years in existence) / IITs, IISc, IISERs & AIIMS.
iii. Department should have existed for at least for 3 years.
iv. Number of core faculty members having Ph.D. degree should be eight (8) or more.
v. Well established Department/ Centre and should be internationally competitive.
vi. The focus of support would be in tune with the National Missions as well as National Priorities in manufacturing, waste processing, clean energy, water and start-up India etc.
vii. The Department should have at least 3 ongoing EMR grants worth Rs 400.0 lakhs.
viii. Performance in last 5 years.
ix. Publications in SCI Journals, Patents etc.
x. Awards received by the Faculty Members of the Department/ Centre.
xi. Projected Research Plan for next 5 years.
xii. No additional Maintenance support. Such Departments need to include/ negotiate comprehensive warranty of the equipment at the time of purchase for a maximum of 5-years period.
xiii. In case of Non-Govt. University/ Institute, departments of the University should have at least 10 PhD students pursuing their PhD as full time Research Scholar and receiving their fellowships either by virtue of NET/GATE qualification or holder of Institute/any other agency fellowship.

Level – 3

i. Departments in State & Central Universities /All Academic Institutions (including IITs, IISc, IISERs & AIIMSs) that are well established and internationally competitive Department / Centre in research activities.
ii. Funding is up to Rs 10.0 Crores for 5 Years duration.
iii. The Department should have already received 2 cycles of FIST support at Level '2' and secured at least one 'Excellent' and one 'Very Good' review grading in those projects.
iv. The focus of support would be in tune with the National Missions as well as National Priorities in manufacturing, waste processing, clean energy, water and start-up India etc.

v. Minimum Number of permanent faculty members with PhD degree should be ten (10) faculty members.

vi. At least 20% Faculty Members in the Department/ Centre shall have recognition at National/ International level such as Membership of Academies, Awards and Leadership Roles etc.

vii. Measurement of Department/ Centre's profile on last 10 years' Performance.

viii. Publications in SCI Journals with citation of each publication.

ix. Patents (Filed or Granted) and Patents exploited for commercial gain.

x. Extra Mural Research (EMR) grants received from a) National Agencies, b) International Agencies, c) Industry (on both Collaborative Research & Consultancy),

xi. Full-time Ph.D. awarded

xii. Recognition of faculty members from a) National and b) International agencies like Academy Membership, Awards etc.

xiii. No additional maintenance support. Such departments need to include/ negotiate comprehensive warranty of the equipment at the time of purchase for a maximum of 5-years period

xiv. In case of non-govt. University/Institute, departments of the university should have at least 15 Ph.D. students pursuing their Ph.D. as full time research scholar and receiving their fellowships either by virtue of NET/GATE qualification or holder of institute/any other agency fellowship.

For further details

https://dst.gov.in/scientific-programmes/scientific-engineering-research/fund-improvement-st-infrastructure-higher-educational-institutions-fist

4.2 Sophisticated Analytical & Technical Help Institutes (SATHI)

The Department of Science and Technology (DST) is initiating of setting up a shared, professionally managed, science and technology infrastructure facility, which can be readily be accessible to academia, start-ups, manufacturing units, industries and R&D Labs. Such S&T infrastructure will be known as **S**ophisticated **A**nalytical & **T**echnical **H**elp **I**nstitute (**SATHI**). These Centers will be equipped with major analytical instrument and advanced manufacturing facility, which is usually not available at Institutes / Organizations. The aim is to provide professionally managed services with efficiency, accessibility and transparency of highest order under one roof to service the demands of industry, start-ups and academia.

In the first phase SATHI facilities are being located at IIT-Delhi (http://crf.iitd.ac.in/sathi/index.html), IIT-Kharagpur (http://www.sathi.iitkgp.ac.in/) and BHU-Varanasi (http://anandkanan.in/equipment/).

This effort is expected to reach out much needed less endowed organizations like MSMEs, Start-ups, state universities and colleges fostering a strong culture of research collaboration between institutions and across disciplines to take advantage of developments, innovations and expertise in diverse areas.

4.2.1 Aims and objectives of SATHI

i. The aim of SATHI is to provide a shared, professionally managed services and strong science and technology infrastructure / facilities, with efficiency, accessibility and transparency of highest order under one roof to service the demands of faculty, researchers, scientist and students of Host and User institutes / organizations (including other academic institutes, universities, national laboratories, start-ups, manufacturing and engineering industries, SME's, R&D Labs) to enable them to carry out R&D activities on a round the clock basis with minimum downtime.

ii. SATHI will have facilities for fabrication work, rapid prototyping, material testing, characterization, new device fabrication, smart manufacturing and characterization facilities etc., to attract and help R&D labs, industrial R&D, MSME, Incubators and Start-ups, etc.

iii. To organize short term courses / workshops / seminars, hands-on training programme etc. on the use and application of various instruments and techniques for both External and Internal Users / Researcher and provide the technical help and scientific knowledge to the end Users while accessing these sophisticated scientific instruments.

iv. To train technicians for maintenance and operation of sophisticated scientific instruments and keep a record book of these people trained with various specialized equipment available with respective centres and to engage these trained persons, while required for any other SATHI Centres for better societal outreach and utilisation of these trained manpower.

4.2.2 General information

Largely this scheme is focusing at (a) procurement and maintenance of high-end equipment and infrastructure facility necessary for research/ testing/ manufacturing/ fabrication. To cater service by understanding the demands of researchers, scientists, students, start-ups, manufacturing units, industries and R&D Labs, (b) Providing access and sharing of scientific equipment and infrastructure,

(c) Capacity Building of operators and technicians for efficient operations and interpretations of results/ outcome, (d) Monitoring of usage of expensive scientific research infrastructure for maximum utilization of Infrastructure Management with efficient operations and to be a part of 'Atmanirbhar Bharat Abhiyan' (Self Reliant India Campaign).

Inclusive purpose of SATHI is generation/ creation of knowledge adopting best practices of such facility, expansion of different knowledge chain that starts from R&D to applied science then to translational research side and how to take forward to next stage to gain better societal outreach.

Perceptibly, this would encourage & ensure to create a National Network of Laboratories and testing facilities, tightly linked to global standards. Hence higher efficacy through (T2C2) focused Viz: Technology, Testing, Certification & Compliance, approach through SATHI will boost-up the manufacturing clusters / industries.

SATHI facilities will be used for 80% of their available time by external users i.e. out-side of the Host Institutes and rest 20% of available time for Internal Users of the Host Institute. The usage of the facility will be guided by the basic principle of maximum and effective utilization and accessibility to all.

The facilities provided by the SATHI may be utilized by any user/organization on payment of nominal charges. The details about the procedure for using the facilities and the charges for sample analysis, information about short term courses/training programmes/workshops etc. can be obtained from the respective Heads of the SATHI or the websites of the Facilities.

For further details: https://dst.gov.in/sophisticated-analytical-technical-help-institutes-sathi

4.3 Promotion of University Research and Scientific Excellence (PURSE)

In appreciation of the R&D contributions of the performing universities, PURSE initiative is taken by Department of Science & Technology, Government of India to initiate value added proactive measures through introduction of R&D incentive grant.

Based on publication output in SCOPUS international data base for a 10-years period having h-index ranging from 56-26 of the University, the PURSE scheme was evolved in the year 2009-10 with the following support range.

4.3.1 Support Range

H-index	Category	Support Amount for 3 years
More than 50	A	Rs. 30 Crore
40-49	B	Rs. 15 Crore
30-39	C	Rs. 9.0 Crore
26-29	D	Rs. 6.0 Crore

By now, three sets of study period (each of 10 years' duration) have been carried out and fourth one is under way by the third-party evaluation on university performance.

1. 1996-2006 - Identified 14 Universities for support in FY 2009-10.
2. 1998-2008 - Identified 30 more universities for support in FY 2011-12
3. 2000-2010 - 2nd Term Support to 14 Universities in FY 2014-15.

DST has planned to invest about Rs.890 cr. now.

4.3.2 Salient Features of PURSE Program

v. The support provided to each university has been classified under ' Flexible ' and ' Fixed ' Components.

vi. The expenditure heads in ' Flexible Components' are totally flexible within 85% of total budget. The expenditure heads under Flexible Component includes support for acquiring equipment, consumables, infrastructure facilities and networking & computational facilities.

vii. The support areas in 'Fixed Components' covers expenditure heads like manpower cost (10%), Travel 1 %, and (Contingences, Seminar/Workshop to organize and Maintenance) – total 4 % and comprises 15 % of total support.

viii. No budgetary quotation for any equipment and other items is required for releasing grants by DST under this program. University will only inform DST about the equipments with individual cost and other items as identified by them before acquiring and university would be responsible for all procurements.

ix. 'Manpower' to be engaged under this program should be for research and technical support and engaged on contractual basis and should not be equated with permanent faculty position.

x. No support was made available for the building and civil construction related activities under PURSE initiative.

xi. Decision of utilization of grants across different departments of the universities to be taken solely by the university.

xii. No Overhead amount is allowable under this program

Under the PURSE Program, DST intends to provide support to performing universities across the country essentially for research man-power cost, augmentation of equipment and computational facilities, research consumables, organization of scientific conferences/workshops, travel and maintenance of the facilities. The support for each university will have the following components categorized under Flexible and Fixed Components as described above.

Flexible Components (85% of total support)	Fixed Components (15% of total support)
Hardware cost (Equipments, Research Facilities, Networking and Comptational Facilities)	Manpower cost (10%)
Consumables	Travel (1%)
	Maintenance, Contingencies, Organising or Attending Seminar/workshop including international (4%)

For further details: https://dst.gov.in/promotion-university-research-and-scientific- excellencepurse.

4.4 Shared Research Infrastructure For science, Technology and Innovation (SRISTI)

The Department of Science and Technology (DST) is providing facilities of sophisticated analytical instruments to researchers through its Sophisticated Analytical Instrument Facilities (SAIF) Programme so that the non-availability of these instruments in their institutes may not come in the way of scientists in pursuing R&D activities requiring such facilities and they are able to keep pace with developments taking place globally. Eighteen Sophisticated Analytical Instrument Facilities (SAIFs) which provide sophisticated analytical instruments to users are functioning at IIT, Chennai; IIT Mumbai; CDRI Lucknow, Panjab University, Chandigarh; NEHU, Shillong; IISc Bangalore, AIIMS New Delhi, Guwahati University, Guwahati; IIT, Roorkee, C.V.M.,

Vallabh Vidyanagar, Gujarat, STIC, Cochin, University of Rajasthan, Jaipur, Shivaji University, Kolhapur, Indian Institute of Engineering Science & Technology (IIEST), Shibpur, IIT Patna, MG University, Kottayam, Karnataka University, Dharwad, Guru Ghasidas Vishwavidalaya, Bilaspur.

SAIFs mostly housed to high-end equipments such as SEM, TEM, EPMA, HR-MS, NMR, EPR, X-Ray Facilities, Thermal Analyser etc. which are normally not available at many academic Institutions due to their high cost.

Annually, about 10,000 scientists/users are utilizing these facilities at various SAIFs across the country. Besides this, the SAIFs regularly organize short term courses/training programmes on use and application of various instruments and analytical techniques to create awareness among the users about them and on maintenance/repair/operation of instruments for technicians.

4.4.1 Objectives of the SAIFS

I. To provide services of facilities of sophisticated analytical instruments to scientists and academicians from academic institutes, R&D laboratories and industries to enable them to carry out measurements for R&D work.
II. To acquire and develop capability for preventive maintenance and repair of sophisticated instruments.
III. To organize short term courses/workshops on the use and application of various instruments and analytical techniques.

These SAIF centres are equipped with different sophisticated analytical equipment's for meeting the needs of researchers in all areas of Science and Technology. Any individual researcher or group of researchers from any academic institutions or Industrial R&D or Industry can utilize the services of these analytical equipment facilities on nominal charges.

For further details: https://dst.gov.in/scientific-programmes/scientific-engineering-research/sophisticated-analytical-instrument-facilities-saifs

Chapter 5

Department of Biotechnology (DBT)

5.1 Capacity Building Programmes

DBT has established a network of 126 Biotech Hubs across NER, providing necessary infrastructure in universities/ colleges/ institutions and the required training in sophisticated technologies so as to support and promote biotechnology education and research. At this juncture, there are 6 State-Level and 106 active institutional level biotech hubs including 6 hubs in 5 aspirational districts identified by government in NER, spread across all the eight states of NER. Together these hubs have conducted more than 1700 hands-on training programmes and benefitting more than 44,000 participants across the region and more than 1400 research articles/papers have been published by these Hubs both in national and international journals. These biotech hubs have produced more than 210 Ph.D. students and 165 such scholars have been placed at various institutions/organizations across the country.

For further details: https://dbtindia.gov.in/schemes-programmes/promoting-biotechnology-north-east-region/capacity-building-programme

5.2 SAHAJ

Scientific Infrastructure Access for Harnessing Academia University Research Joint Collaboration (DBT-SAHAJ Infrastructure)

The primary goal of DBT-SAHAJ Infrastructure is to create “national” service facility/ research resource/platform and to provide access to resources that could not be provided by any single researcher's laboratory or scientific department but required for data acquisition, analysis and providing the proof of concept to cater the needs of a larger community. The Department, through DBT-SAHAJ Infrastructure, provides support to establish such new or upgrade existing research resources/service facilities and platforms in Indian institutions/universities engaged in cutting edge research in frontier areas of Life sciences/Biotechnology.

5.2.1 Definitions

I. Service facilities are the research resources including scientific and technical support, which are established to provide comprehensive services to users for creating efficient research and innovation ecosystem.

II. A platform is a group of technologies that are used as a base upon which other applications, processes or technologies are developed.

III. These platforms range from vast chemical libraries, ultra-high throughput screening and huge genetic databases in discovery, to predictive toxicology platforms, cutting-edge 'omics' and even deep-seated knowledge of particular therapeutic areas in development.

IV. Technology platforms follow a three-stage process.

V. First, stakeholders forge a common vision.

VI. Secondly, they define a Strategic Research Agenda (SRA) setting out the necessary medium-to long term objectives.

VII. Finally, they implement the SRA by facilitating the mobilization of necessary human, financial and technological resources.

VIII. In a Platform, all relevant stakeholders come together to address and resolve the challenges that lie ahead through a concerted and dedicated approach.

5.2.2 Objectives

The major objectives of DBT-SAHAJ infrastructure are:

I. Quantitative and qualitative expansion of existing or establishing of new research infrastructure

II. Providing access to world class and state of the art facilities

III. Technology driven capacity building

IV. Human resource development through training

V. Improvement of institutional/university biotech infrastructure for education and quality research leading to societal impact

VI. Encouraging the long-term operational sustainability

VII. Fostering academic and industry cooperation

VIII. Fostering partnerships to maximize opportunities

IX. Encourage global competitiveness

X. Promote translational research leading to products testing, validation and development

XI. Provide services for food and environmental biosafety assessment, diagnostic and detection services related to trade, medicine and agriculture and environment

For further details: https://dbtindia.gov.in/schemes-programmes/research-facilities-resources-technology-platforms/scientific-infrastructure

Chapter 6

Modernisation and Removal of Obsolenscence (Modrobs)

6.1 Objectives

a. The scheme aims to modernize and remove obsolescence in the laboratories / workshops / computing facilities (libraries are excluded), so as to enhance the functional efficiency of technical institutions for teaching, training and research purposes**.**
b. It also supports new innovations in class room and laboratory / teaching technology, development of lab instructional material and appropriate technology to ensure that the practical work and project work to be carried out by students is contemporary and suited to the needs of the industry.
c. The equipment financed under the scheme could be ideally used for up-gradation of equipment in existing laboratories, enhancement of performance parameter specification of existing equipment, incorporation of latest development in the field and replacement of old depreciated equipment by modern equipment.
d. In addition to above major objectives, the equipment installed through MODROBS can be used for indirect benefit to faculty / students through continuing education programmes, training programmes for local industry and consultancy work.

6.2 Eligibility

a. AICTE approved technical institutions / university departments with at least 10 years of existence.
b. For self-financing/institutes: Maximum 3 proposals per institute per year including sanctioned earlier but not completed would be considered.
c. For govt. /govt. aided institutes: Maximum 10 proposals per institute per year including sanctioned earlier but not completed would be considered.

6.3 Duration of project

Duration of project will be two years from the date of receipt of funds in the institute's account.

6.4 Limit of funding

Total funding of Rs.20 Lakh.

6.5 Disbursement of the Funds

a. 100% grant of sanctioned amount will be released to Govt. /Govt. aided Institutes.
b. To private institutions, grants will be sanctioned in the form of 80% of the sanctioned amount as advance followed by 20% as reimbursement on submission of the Utilization certificate and other supporting documents as specified in terms and conditions of MODROB.

6.6 Processing methodology

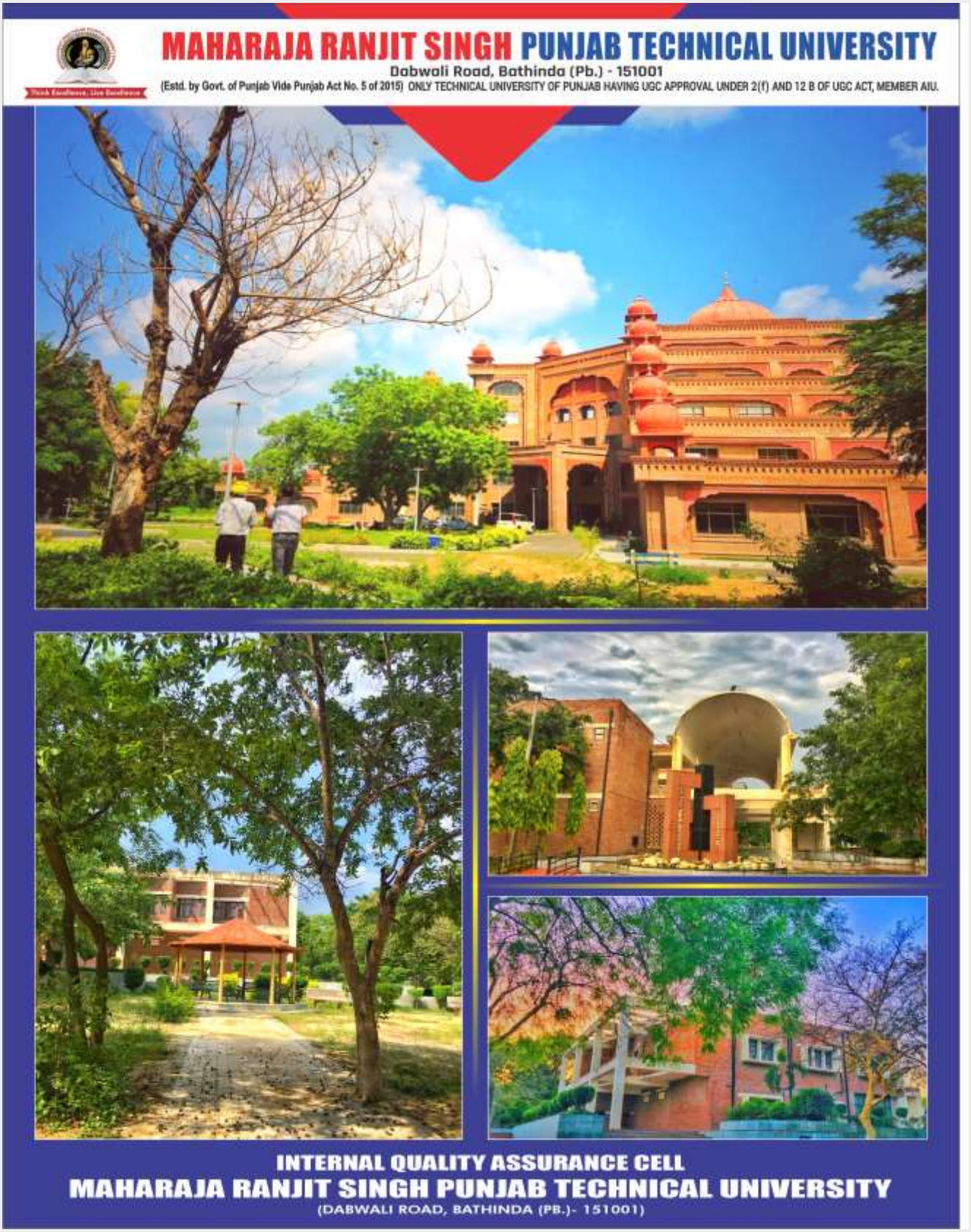
The proposal shall be assessed by an expert committee constituted as follows:

a. Three members expert committee not below the rank of Associate Professor. At least two members among the experts shall be from the concerned stream.

6.7 Terms and conditions

a. In MODROBS scheme, the Head of the Department (HOD) submitting the proposal is always the Project Coordinator. To enable subject specific knowledge to be utilized, a co-coordinator can also be proposed. The HOD should critically analyze the requirements of the laboratory / laboratories of the department for preparation of the project proposal, which should relate to the future development of the academic strength of the department.
b. It may be noted that the concerned head of the department shall be responsible for execution and completion of the sanctioned project, followed by submission of all related documents including the project report.
c. In case, the coordinator i.e., the concerned head of the department of MODROBS programme joins another institution, transfer of the project along with him is not allowed. If the HOD changes by rotation or leaves the Institution or retires, or goes on a long leave, the successor head of the department shall become the project coordinator of the project, and this fact should be intimated to the council immediately.

d. Any expenditure incurred prior to the issuance of the approval letter is not allowed to be adjusted in the grant. The grant shall be utilized strictly for the purpose as specified in the approval letter.
e. The grant shall be utilized strictly for the purpose as specified in the sanction letter and procurement of equipment authorized by AICTE. Re-appropriation of funds from one head to another is strictly not permitted viz. Recurring and Non-Recurring heads are 15% and 85% of the total grant, unless otherwise recommended by AICTE experts.
f. Once the project is sanctioned, the council shall not consider any request for additional grants.
g. Separate institutional overhead expenses shall not be provided by AICTE. The assets acquired out of the grant shall be the property of the institution and should always reflect in its book of accounts including the assets register. They should be certified by the concerned principal coordinator. No assets acquired out of the grant shall be disposed off without the prior permission of the council.
h. Interest earned on the project fund, if any, should be reported to AICTE. The interest so earned will be treated as a part of the grant.
i. Grant released under this programme is for the specific period and should be properly utilized within the time stipulated in the project proposal.
j. The council shall not provide any maintenance grant after the expiry of the project.
k. Whenever the institution / laboratory / department receives a grant for modernization of a laboratory under the schemes MODROBS, it is imperative that assistance obtained from AICTE for modernization of the laboratory/department is acknowledged duly by putting up a plaque at the main entrance of the lab/department, which has been modernized using the grant. All the equipment procured/developed through this project should be super scribed with AICTE project file number.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(Estd. by Govt. of Punjab Vide Punjab Act No. 5 of 2015) ONLY TECHNICAL UNIVERSITY OF PUNJAB HAVING UGC APPROVAL UNDER 2(f) AND 12 B OF UGC ACT, MEMBER AIU.
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