

## Rajiv Gandhi University of Knowledge Technologies

(Act No.18 of 2008 & Act 8 of 2016)

Basar Village & Mandal, Nirmal Dist. Telangana - 504 107, India. Website: www.rgukt.ac.in

## MEMORANDUM OF UNDERSTANDING BETWEEN

### RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES, BASAR

#### AND

# NON FERROUS MATERIALS TECHNOLOGY DEVELOPMENT CENTER, HYDERABAD

This Memorandum of Understanding (MoU) entered into on the \_\_\_\_ day of March 2018 between RAJIV GANDHI UNIVERSITY OF KNOWLEDGE AND TECHNOLOGIES, BASAR, Telangana-504107, an autonomous institute under Ministry of Higher Education, Government of Telangana with its office at Basar – 504 107 (hereinafter referred as RGUKT, Basar) of the first party

#### AND

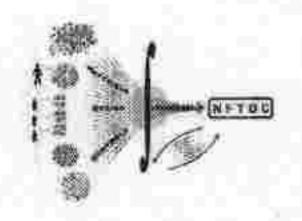
NON FERROUS MATERIALS TECHNOLOGY DEVELOPMENT CENTER, an autonomous and Self-Financing R & D institution under the aegis of Ministry of Mines, Government of India and registered as a Society under Public Societies Registration Act 1350 Fasli and located in Hyderabad-500058, (hereinafter referred as NFTDC) of the second party

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#### 1. Introduction

- 1.1 RGUKT, Basar and NFTDC agree to enter into a "Joint Collaboration" between two institutions.
- 1.2 This MoU sets out below the principles by which RGUKT, Basar and NFTDC can establish a formal agreement regarding such joint collaboration activities.

#### 2. Preamble

- 2.1 RGUKT, Basar is functioning under the Ministry of Higher Education, Government of Telangana. It is a unique university which uses Information and Communication Technology (ICT) in teaching and it is the first of its kind in the country. RGUKT, Basar with various engineering and sciences departments is charged with responsibility of training technical and scientific manpower in various front-line areas of importance for the Nation and is also contributing to the rapidly growing scientific and technological knowledge and professional excellence in Science & Technology by undertaking industrial & applied research and consultancy.
- 2.2 NFTDC is an autonomous and self financing R & D institution under the aegis of Ministry of Mines, dedicated to the development of Advanced Materials, Innovative Processes on the one hand and Engineering Design, Analysis, Electronics, Instrumentation and Control leading to component and systems development and integration on the other. NFTDC is an unique Technology Center, in that, it is multi disciplinary knowledge domain based institution, which enables the centre to undertake complex technology development endeavors as interdisciplinary projects involving both knowledge creation (scientific know-why) and knowledge integration (technical know-how). NFTDC's uniqueness stems from its three genetic characteristics, namely (i) self financing nature, (ii) its multi disciplinary all executive human resource and (iii) R & D policy of contact / sponsored research and development oriented to needs of the user agencies.
- 2.3 The strong academic credentials of RGUKT Basar and the center of excellence in Technology as obtained in NFTDC are to be synergized for further enhancing the Human Resource Development for Advanced Technology Programmes. The close proximity of the two institutions also augurs well for cooperation in advanced engineering and research.

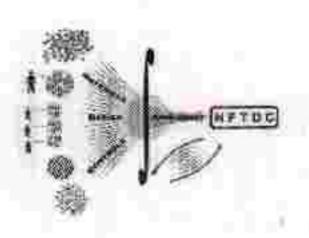
2.4 Advanced technology development calls for interdisciplinary research and knowledge integration across many disciplines. NFTDC being a Technology center is actively involved in high technology areas such as (i) aerospace (ii) energy (conventional and nonconventional), (iii) automotive, (iv) biomedical and health care, (v) process engineering and (vi) environment sector

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The basic core competence of NFTDC in (a) Design, (b) Advanced Materials & Manufacturing and (c) Controls and Instrumentation have been integrated in all projects to render technology solutions in an end to end paradigm. The uniqueness of NFTDC is the systems approach to technology development, which enables concept to product development thus addressing the real gaps in translational research. NFTDC has state of art facilities in design, advanced manufacturing and product development and pilot production on the one hand and advanced testing and characterization facilities on the other.

- 2.5 RGUKT Basar has seven engineering departments, three science departments and centers catering to all engineering disciplines and over the past six years has excelled in undergraduate and over two years in post graduate education. In the last two years, new M.Tech programmes have evolved over many specialties in Electronics and Communication, Mechanical and Computer Science Engineering streams. Presently, the emphasis is to initiate interdisciplinary R & D and corresponding M.Tech programmes that cover expansive and multi disciplinary approach to problem solving. RGUKT Basar in this regard has the high end equipments such as FESEM, XRD, Wire EDM, 3D Printer to name a few which could be effectively utilized for quality R & D work.
- 2.6 One of the important un-met needs in higher education in Engineering is the systems engineering encompassing (i) Design (components to systems level), (ii) advanced manufacturing and system integration and (iii) materials. NFTDC in all its technology endeavors has been able to demonstrate the systems approach, system engineering and system integration as the essential need for developing new, innovative and cost effective technologies, particularly in high technology sectors such as aerospace, energy, automotive, biomedical and process engineering sectors. All of these sectors require system level solution even at the sub-assembly levels.
- 2.7 The live state of art of technology development projects, advanced facilities and multidisciplinary research scientists and engineers in NFTDC on the one hand and the engineering department specializations and centers with state of art laboratories, library and information resources of RGUKT Basar on the other provide the ideal crucible for training the next generation in advanced R & D leading to technology developments.

#### 2.8 Both RGUKT Basar and NFTDC, now

 Recognizing the importance of research and development in the areas of advanced materials, designing and analysis, electronics, instrumentation, etc.

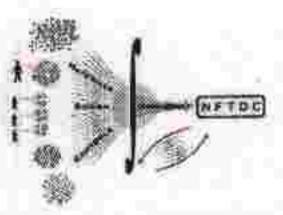
 Appreciating the need for creation of large reservoir of highly qualified manpower in all fields related to these areas,

Desiring to club their efforts by pooling their expertise and resources.

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Vice-Chancellor
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INTEND to form a nucleus for promoting excellent quality manpower in the fields of engineering, technology and science with special emphasis on Mechanical, Materials/Metallurgy, Chemical, Electrical and Electronics engineering and related fields. One of the effective ways of training the next generation for R & D in advanced engineering is to develop M.Tech programmes.

NOW, THEREFORE, in consideration of the mutual promises made herein and of good and valuable consideration, the receipt and sufficiency of which both RGUKT Basar and NFTDC hereby acknowledge, RGUKT Basar and NFTDC hereby agree to sign a Memorandum of Understanding (MoU).

#### 3. SCOPE OF MOU

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- 3.1 This MoU details the modalities and general conditions regarding collaboration between RGUKT Basar and NFTDC for enhancing, within the country, the availability of highly qualified manpower in the areas of advanced materials, designing and analysis, electronics, instrumentation, etc without any prejudice to prevailing rules and regulations in RGUKT Basar and NFTDC without any disregard to any mechanism evolved and approved by the competent authorities under Govt. of India in so far as such mechanism applies to RGUKT Basar and NFTDC. The areas of cooperation can be extended through mutual consent.
- 3.2 The scope of MoU specifically covers academic interaction leading to higher qualifications and advanced engineering research thereby enabling development of human resource for R & D and academic faculty requirements of the country. This primary objective is envisaged to be achieved through a joint M.Tech programme and PhD in the interdisciplinary areas that are generally unmet and the need for such high calibre human resource is keenly felt across R & D institutions as well as academia. The interdisciplinary areas involving advanced materials, product and system level design and engineering in the areas of automotive, aerospace, energy, health care sectors can be met on a generic platform of computational mechanics with strong course work and thesis/dissertation done in live advanced technology development projects.
- 3.3 Senior scientists from NFTDC can be added as Adjunct Faculty in their respective departments at RGUKT Basar, thereby, the engineering departments which meet the requirement of offering PhD degree can be recognized as research centers with the approval of the Executive Committee of the University.

3.4 RGUKT Basar and NFTDC agree to extend the necessary laboratory equipments and facilities to complete the collaborative research projects.

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#### 4. CRITERIA

To start with a Joint M.Tech and PhD Programme titled "Computational Mechanics" will be initiated from the academic year 2018-2019.

#### 4.1 Academic Requirements for Admission:

The Academic requirements for admission will be based on the norms of RGUKT Basar, Basic Requirement: BE/B.Tech in Mechanical, Production Engineering, Industrial & Production Engineering, Mechatronics, Aerospace, Automobile Engineering disciplines with valid GATE/PGECET scores. Scientists and engineers working in NFTDC will be considered as sponsored candidates from the above disciplines after sufficient R & D experience in NFTDC, i.e., with minimum experience of one year or more as Senior Project Associate or as Project engineer or any grade above. GATE scores are not applicable for such sponsored candidates.

#### 4.2 Strength:

12 (Twelve) regular students per year as per the reservation policy of the Government of India and 6 (Six) NFTDC sponsored candidates (subjected to the approval of Executive Committee of the University) shall be from the total strength of 18 (Eighteen) per year.

#### 4.3 Course Work:

Two semester course work is mandatory at RGUKT Basar followed by two semester project work at NFTDC. The mandatory course work will be decided by RGUKT Basar and it will be full time in RGUKT Basar. The present programme being of joint nature has to be of full time nature only with mandatory course work at RGUKT Basar for first two semesters followed by third and fourth semester project work at NFTDC. The candidates from NFTDC shall also undergo full time course work for first two semesters as RGUKT Basar. Necessary leave of absence shall be accorded by NFTDC for attending the mandatory course work.

NFTDC agrees to extend the necessary laboratory equipments and related facilities for laboratory practice during the first two-semester course work period.

Boarding and Lodging facilities for NFTDC sponsored candidates will be extended by RGUKT Basar as per the Institute norms.

#### 4.4 Thesis Guides:

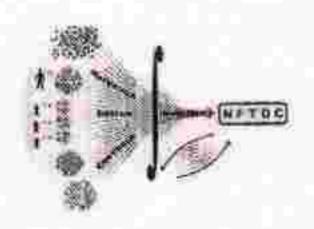
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There will be one thesis guide from RGUKT Basar and other guide from NFTDC.

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BASAR-504 107

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#### 4.5 Programme Coordinators for Joint M. Tech & PhD programme:

RGUKT Basar will indentify a Professor/Associate/Assistant Professor of the Department of Mechanical Engineering, who is responsible for the day to day administration of the course at RGUKT Basar. NFTDC will also indentify a senior scientist as the coordinator of M.Tech so as to enable institutionalization of the programme and also to conduct day to day administration of the programme from NFTDC end.

#### 4.6 Faculty and Scientists Exchange:

RGUKT Basar and NFTDC shall facilitate exchange of faculty and scientists in course work as well as research.

#### 4.7 Placements of Students:

From amongst the graduating students, a few will be given an option of serving in NFTDC for one year as Senior Project Associate on completion of the programme. This will give the necessary work experience to the graduating students. They also become eligible to apply for Project Engineer and other positions in NFTDC as per norms prevailing in the centre from time to time.

#### 5. PhD Programme

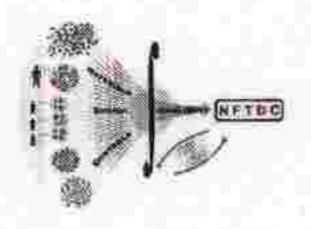
- 5.1 RGUKT Basar recognizes NFTDC as a research centre for carrying out doctoral work in the areas of research namely Mechanical Engineering, Metallurgical Engineering, Electrical Engineering, Chemical Engineering and Computer Science & Engineering and all other allied areas.
- 5.2 NFTDC will consider the assistant professors from RGUKT Basar, to choose a senior scientist from NFTDC as an external guide for their PhD research work.
- 5.3 RGUKT Basar and NFTDC shall submit joint project proposals to funding agencies such as DST, UGC/MHRD, CSIR/DSIR, MNRE, DRDO, ISRO etc.

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#### 6. Duration, Extension and Termination of MOU

- 6.1 This MoU will be effective from this date to a minimum of 5 years where it is valid for 3 batches of M.Tech students and for a period of 4 years for PhD scholars. Thereafter, this MoU may be extended for further period as deemed appropriate by both parties, subject to their mutual consent of any such extension to be made in wirting, one year before the expiry of the existing MoU so as to facilitate continuation of the collaborative M.Tech and PhD programmes.
- 6.2 Either party may terminate this MoU by giving a written notice of termination at least six months in advance.
- 6.3 In the event of termination of MoU, for whatever reasons, both parties agree to fulfill their respective commitments related to the M.Tech, Ph.D, Joint research projects, joint conferences etc, at the time of termination.

#### 7. Amendments

Any clause or article of the MoU may be modified or amended by mutual agreement of RGUKT Basar and NFTDC.

#### 8. IP Related Issues

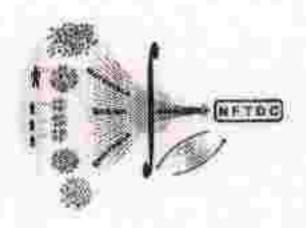
- 8.1 In the case of joint research projects, the research findings, patents and all other intellectual property rights shall be owned jointly by RGUKT Basar and NFTDC.
- 8.2 The expenditure connected with securing and maintenance of the IP assets shall be shared by the two parties proportional to their respective intellectual, material and financial contributions.
- 8.3 Normally, the external funding agency's terms and conditions relating IP and Non disclosure agreements shall be binding on the two parties.

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#### 9. Arbitration

Incase of any dispute arising out of this MoU, the heads of the two institutions shall endeavour to resolve such controversy or dispute by discussions and in good faith.

Any dispute, controversy or claim out of or in connection with this MoU which may not be settled by mutual accord within 60 days of receipt of a formal notice that is sent from one Party to the other Party, may be settled through an arbitrator appointed in accordance with the rules of Indian law and be subjected to the jurisdiction.

Signed

Dr. A. Ashok, KAS

Vice-Chanceflor (I/c),

Rajiv Gandhi University of

Knowledge Technologies, Basar,

Basar, India

Date:

Witnesses from RGUKT Basar

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Signed

Dr. K. Balasubramanian

Director,

Non Ferrous Materials Technology

Development Center (NFTDC),

Hyderabad, India

Date:

Witnesses from NFTDC, Hyderabad

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