# विकास आयुक्त का कार्यालय

(सूक्ष्म, लघु एवं मध्यम उद्यम) सूक्ष्म, लघु एवं मध्यम उद्यम मंत्राालय (भारत सरकार)

निर्माण भवन, सातवीं मंजिल, मौलाना आजाद रोड़, नई दिल्ली-110 108



# OFFICE OF THE DEVELOPMENT COMMISSONER (MICRO, SMALL & MEDIUM ENTERPRISES)

MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES
GOVERNMENT OF INDIA

Nirman Bhawan, 7<sup>a</sup> Floor, Maulana Azad Road, New Delhi-110 108

Dated: 22/01/2024

#### Ph. EPAX-23063800, 23063802, 23063803, 23063804, 23063805 & 23063806

By Speed Post/E-mail

F. No. 6 (19)/Sanction to CNA/Incubation/2022-23

To

The Accounts Officer
Pay & Accounts Office
Micro, Small & Medium Enterprises
New Delhi.

## SANCTION ORDER

Subject: Sanction of Rs. 6,02,19,050/- (Rupees six crore two lakh nineteen thousand fifty only) and release of Rs. 6,02,19,050/- i.e., towards 2nd Installment (30% of GOI sanctioned amount) Grant-in-Aid General (Non-Recurring) to be credited to CNA-CTTC-Bhubaneswar) for releasing to 99 Host Institutes (HIs) for 182 Ideas under Incubation Component of MSME Innovative Scheme for FY 2023-24-reg.

Undersigned is directed to convey the sanction of the President of India of Rs. 6,02,19,050/- (Rupees six crore two lakh nineteen thousand fifty only) and release of Rs. 6,02,19,050/- i.e., towards 2nd Installment (30% of GOI sanctioned amount) under Grant-in-Aid General (Non-Recurring) to be credited to CNA-CTTC-Bhubaneswar) for releasing to 99 Host Institutes (HIs) for 182 Ideas approved under MSME Idea Hackathon 2022 as **per Annexure-A** under Incubation Component of MSME Innovative Scheme for FY 2023-24-reg.

- 2. This is in accordance with the Department of Expenditure's OM no. 1-17008/3/2003-CGA/e-12949/601 dated 12.12.2023 (copy enclosed), (Releases of funds under Central Sector Schemes) under clauses b (iv) & (vi) the following relaxation have been provided as below:
  - iv) The sanction order cannot be generated if the amount proposed to be released is more than 25% of budget allocated for the CNA.
  - vi) The sanction order cannot be generated if the CNA bank account balance is more than 6.25% of the annual Budget allocation to the CNA. The validation is relaxed if the sanction order is generated for Object Heads -31 (GIA-General) AND 36 (GIA-Salary).
- 3. Accordingly, the "Concurred Amount" and the "Release Amount" are as under:

| S. No. | BE /RE of MSME Champions<br>Scheme 2023-24(Rs. in Lakh) | Concurred Amount by IFW during FY 2023-24(Rs.) | 'Release' Amount<br>for FY 2023-24(Rs.)                   |
|--------|---|--|---|
| 1      | 5272.00   |  | Rs. 6,02,19,050/- be credited to the CNA-CTTC-Bhubaneswar |

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धी. श्रमकृष्णन/V. RAMAKRISHNAN
उम निदेशक/Dy. Director
भारत संस्कार/Govt. of India
सुर्था. लागु एवं गुरुया प्रथम नेवारतथ Ministry of Micro, Small & Medium Enterprises
विकास सामुद्रार (हे. त. एवं च. करन) का कार्यातम टिक्ट प्रकार (क. ठ०. Comm. (MSME)

## 4. Roles and Responsibilities of CNA:

Central Tool Room And Training Centre (CTTC), Bhubaneswar, Odisha shall release the amount to the respective Host Institutes (HIs) as per the **Annexure-A** after submission/upload of all requisite documents on MIS portal by the HIs concerned as per the scheme guidelines. The Grant-in-Aid will be regulated in accordance with the OM of Dept. of Expenditure, Ministry of Finance vide No. 1(18)/PFMS/FCD/2021 dated 9<sup>th</sup> March, 2022 (copy attached) regarding revised procedure for flow of funds under Central Sector Schemes and provisions contained in the Incubation Component of MSME Innovative Scheme. CTTC, Bhubaneswar, Odisha has been nominated as CNA vide letter No. 41(1)/Budget/MSME Champions/2021 dated 27.06.2022 for Incubation Component of MSME Innovative Scheme of MSME Champions Scheme (copy of the order enclosed for reference). CTTC, Bhubaneswar shall strictly follow the roles and responsibility as mentioned in the aforesaid O.M. The funds released are also subject to the provisions contained in Chapter 9 of the General Financial Rules, 2005, as amended from time to time, read with the Government of India's decisions incorporated thereunder and any other guidelines which may be issued in this regard and in particular to the following conditions:

- CTTC, Bhubaneswar shall maintain CNA account of Grant-in-Aid received from the Government and utilized. In addition, a separate Bank account shall be maintained for the Government Grants under this Scheme. (The bank account should be same which was authorized for operation at the time of registration under the central plan Scheme monitoring system (CPSMS) of the Ministry of Finance).
- ii. The grant shall be utilized for the purpose of development of ideas under Incubation Component of MSME Innovative Scheme as provisioned in the Scheme guideline. Further, while incurring the expenditure, austerity measures should be taken into account as issued from time to time by competent authority.
- iii. www.innovative.msme.gov.in portal shall be used for uploading all relevant information by the HIs as and when required by this office under Incubation Component of MSME Innovative Scheme.
- iv. CTTC, Bhubaneswar shall maintain a register of permanent and semi-permanent assets acquired if any, wholly or mainly out of the above grant in the prescribed format and copy thereof should be furnished to this Ministry.
- v. If any capital assets created in the CTTC, Bhubaneswar, DC (MSME) will be the sole proprietor of the same. Assets acquired wholly or substantially out of Government Grant shall not be disposed of without obtaining the prior approval of the sanctioning authority of Grantin-aid.
- vi. The accounts of CTTC, Bhubaneswar shall be open for inspection by the sanctioning authority and audit, both by the Controller & Auditor General of India under the provision of C&AG (DPC) Act, 1971 in accordance with the provisions laid down in Section 14 of the C&AG (DPC 1971) as amended from time to time and Internal Audit party of the Principal Accounts Office of the Ministry of Micro, Small & Medium Enterprises (MSME), whenever it is called upon to do so.
- vii. The grantee shall submit the Utilization Certificate in the prescribed form GFR-12 duly signed by the Head of the Institution/ Grantee latest by 31.03.2024. The utilization certificate in respect of grants should also disclose whether the specified, quantified and qualitative targets that should have been reached against the amount utilized were in fact reached, and if not, the reasons there for furnished by concerned HI.

वी. रामकृष्णन/V. RAMAKRISHNAN
उप निदेशक/Dy. Director
सारत सरकार/Govt. of India
सूट्य, लघु एवं मध्यान उत्तम मंत्रालय
Ministry of Micro, Small & Medium Enterprises
किंद्रा आधुल (मृ. स. एवं म. उद्यम) का कामीलय
Colombian Star Comme (MSME)

- viii. CTTC, Bhubaneswar shall furnish an Audited Statement of Accounts of the financial year before 30.04.2024 also indicating separately Activity-wise and Head-wise expenditure.
  - ix. Grant-in-Aid shall be utilized subject to the Economy and other Instructions issued from time to time by the M/o Finance or by the Competent Authority.
  - x. CTTC, Bhubaneswar shall certify that the utilization certificates due for submission for the Grants-in-aid sanctioned in the previous year's containing all the relevant details under GFR 212(1) have been submitted to the satisfaction of the Ministry of MSME.
- xi. CTTC, Bhubaneswar shall adhere to all the relevant provisions of GFR and any other instructions/ guidelines issued by the Government from time to time, while making procurement/ purchases of goods and services including compliance to GFR provisions in case of out-sourcing of services and engagement of consultants.
- xii. CTTC, Bhubaneswar has been exempted from execution of the bond. CTTC, Bhubaneswar shall, however, furnish an undertaking that it will comply with all the terms and conditions stipulated in the sanction order.
- xiii. CTTC, Bhubaneswar should send pre-receipted bill and undertaking to agree to the terms & conditions of this sanction (in triplicate) to this Ministry for payment of the amount drawn against this sanction.
- xiv. In no case the grant released under this sanction will be utilized for any purpose other than those indicated in the sanction. The grantee shall not divert the grants and entrust execution of the Scheme or work concerned to another Institution or Organization and shall abide by the terms & conditions of the grant and follow/ adhere to all the relevant provisions of GFR regarding Grants in aid. If the grantee fails to utilize the grant for the purpose for which the same has been sanctioned or does not adhere to the terms & conditions of Grant and GFR provisions, the grantee/Institution shall be required to refund the grant with interest @10% per annum, if any.
- xv. CTTC, Bhubaneswar will send the detailed progress report of for fund utilized by HI.
- xvi. CTTC, Bhubaneswar may use the fund as prescribed in the Scheme guidelines of Incubation component of MSME Innovative Scheme relating to development of ideas. The expenditure under the sanction is maximum, saving if any, will be surrendered to the Govt. of India.
- xvii. The grantee institution shall not utilize the interest earned if any on the recurring/non-recurring grants-in-aid released to the institution for any purpose. The interest earned shall be indicated in UC which can be either adjusted in next release or to be refunded to GoI after grants-in-aid sanctioned is utilized.

### 5. Roles and Responsibilities of Host Institutes:

i. The expenditure shall be incurred towards Technology related Expenditure towards machine usage charges, Electricity charges, Procurement of raw material, testing/Calibration charges, other charges essential for development of idea, charges for mentor/handholding supporting team and Travelling Expenses or any other item not covered as above may be allowed as per need for development of the idea. The main activities include nurturing of innovative business ideas (new/indigenous technology, processes, products, procedures, etc.), with the expected outcome of it being commercialized into an enterprise.

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वी, सामकृषान/V. RAMAKRISHNAN
चम निदेशक/Dy. Director
सामक सम्मार/Gove of India
सुद्धा, लच्च एवं गस्या चराम मजानम Ministry of Micro, Small & Medium Enterprises किन्छ। शास्त्र (तृ. ल. एवं म. चराम) का कार्यास्य (तृ. ल. एवं म. चराम) का कार्यास्य

- ii. The terms and conditions governing the grant will be as per undertaking executed to Government by the HIs on MIS portal. The amount released as 2<sup>nd</sup> installment will be utilized in a manner that Proof of Concept (POC) of project/idea is made. The Host Institution shall maintain separate accounts of the funds received and expenditure incurred on various activities. Further, the HI would submit Annual Accounts, Audited expenditure Statement and Utilization Certificate to the Government. In case of mis-utilisation or diversion of grant sanctioned under the scheme, the HI shall be liable to refund to the President of India the whole or a part amount of the grant with interest @ of 10 % per annum thereon. Further, the Host Institution shall not utilize the interest earned on the recurring / non-recurring grants –in –aid released to the institution for any purpose. The interest earned shall be indicated in UC which can be either adjusted in next release or to be refunded to GOI after grants –in-aid sanctioned is utilized.
- iii. The time limit for Completion of ideas through Host institute is preferably one year until and unless some valid justification is given for extension of the time limit The Executive Head shall submit Quarterly Progress Report of the development of ideas to this office. The consolidated report on the final outcome of such incubation along with the report of mentor/guide about the quality of the work done, its cost effectiveness, tangible gains (quantitative) likely to be achieved, etc., is also to be submitted immediately after completion of the work.
- iv. Host Institutes may use the fund as prescribed in the Scheme guidelines of Incubation component of MSME Innovative Scheme relating to development of ideas. The expenditure under the sanction is maximum, saving if any, will be surrendered to the Govt. of India.
- v. In addition to the above, the HI will have to abide by the terms & condition as given in the detailed guidelines of the scheme. Also, the office of DC (MSME) may lay down any other condition to be followed by HI as and when required.
- vi. The expenditure incurred by the institutions shall be open to inspection by the sanctioning authority/ CAG/Chief Controller of Account (CCA), Ministry of Micro, Small & Medium Enterprises.
- vii. The HIs shall certify that it has not obtained or applied for grants for the same purpose or activities from any other Ministry or Department of Government of India or the State Government.
- viii. Noted at Serial No. 20 in the Register of Grants.
- 6. DDO of the office of DC (MSME) will act as Drawing and Disbursing Officer for this sanction.
- 7. The progress of the scheme would be monitored by the PMAC, O/o DC (MSME).
- 8. The expenditure involved is debitable to the Budget Allocation under Demand No. 68 Ministry of Micro, Small & Medium Enterprises (MSME) under Technology Upgradation and Quality Certification (MSME Champions Scheme) for FY 2023-24. Details are as under:

| (i)   | Major Head                 | 2851.00.102.95      | Village &Small Industries            |
|-------|----------------------------|---------------------|--------------------------------------|
| (ii)  | Object Head                | 95.04.31            | GIA-G                                |
| (iii) | BE (MSME Champions Scheme) | 47.00 Cr.           | Expenditure till date: Rs. 26.66 cr. |
| (iv)  | Present sanction/release   | Rs. Rs. 6,02,19,050 |                                      |

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वी. रामकृष्णन/V. RAMAKRISHNAN
उम निवेशक/Dy. Director
भारत सरकार/Govt. of India
सूदम, लागु एवं मध्यम उद्यम मंत्राज्य
Ministry of Micro, Small & Medium Enterprises
भिकास बागुन्त (सू. स. सं म. उद्यम) अ कार्यात्म Office of the Dov. Commr. (MSME) 9. The CNA bank details of the Central Tool Room & Training Centre, Bhubaneswar for making payment is as below:

| Name of the                               | Name of Bank where | Address/Code of                 | Saving Bank,   | MICR | Code                | and | <b>IFSC</b> |
|---|--------------------|---------------------------------|----------------|------|---------------------|-----|-------------|
| CNA                                       | A/c of Org. Held   | Bank Branch                     | A/c No. of CNA | Code |                     |     |             |
| Central Tool<br>Room &<br>Training Centre |                    | Infocity Branch,<br>Bhubaneswar |                |      | -751002<br>IO. – SB |     | 10133       |

- There is no pending UC with CTTC, Bhubaneswar under "MSME Innovative Scheme 10.
- 11. This issues with the concurrence of Integrated Finance Wing vide their Dy. No. 211/2023-24/IFW-II dated 16.01.2024

Yours faithfully

ती. रामकृष्णन/V. RAMAKRISHNAN उप निदेशक/Dy. Director भारत सरकार/ Govl. of India
स्वारत सरकार/ Govl. of India
स्वारत (स्वार प्रथम मध्यम भंजालय
Ministry of Micro, Small & Medium Enterprises
विकाश आमुक्त (सू. स. एवं म. उद्यम) का कार्यालय
Office of the Dev. Commr. (MSME)
पिताण पदन, मूर्व दिल्ली-110108/Niman Bhanan, New Defin-110108

Dv. Director

Dv. Director

Encl: As above.

## Copy To

- 1. General Manager, Central Tool Room & Training Centre, B-36, Chandaka Industrial Area Bhubaneswar-751024
- 2. The Drawing & Disbursing Officer, Office of DC (MSME), New Delhi.
- 3. The Director (PFMS), Department of Expenditure, Ministry of Finance, North Block, New Delhi.
- 4. B&A Section, Office of DC (MSME), Nirman Bhawan, New Delhi.
- 5. Budget Division, Office of DC (MSME), Nirman Bhavan, New Delhi.
- 6. Principal Director of Audit, Economic and Service Ministry, AGCR Building, IP Estate, New Delhi.
- 7. Under Secretary, IFW, Ministry of MSME, Nirman Bhavan, New Delhi.
- 8. Sr PPS to JS (AFI)/ PS to Director (T&P). Ministry of MSME, Udyog Bhawan, New Delhi.
- 9. SENET Division with the request to upload on DC (MSME) website.
- 10. All MSME -DFOs
- 11. Guard File.

वी. रामकृष्णन/V. RAMAKRISH N तम निर्देशक/Dy. Director नाम्य संस्थात / Govt. of India
सुवस, अस्तु पूर्व मध्यम उद्यम मंजाराय
क्रिकार प्राप्त कर्म मंजाराय
क्रिकार जानुका (सू. स. एवं य. उद्यम) का व (V. Ramakrishnan)
क्रिकार जानुका (सू. स. एवं य. उद्यम) का व (V. Ramakrishnan)
क्रिकार जानुका (सू. स. एवं य. उद्यम) का व (V. Ramakrishnan)
क्रिकार जानुका (सू. स. एवं य. उद्यम) का व (V. Ramakrishnan)
क्रिकार जानुका (स्. स. एवं य. उद्यम) का व (V. Ramakrishnan)

| S.<br>No. | Institute Name  | State         | Incubate<br>e Name             | Incub<br>atee<br>Categ<br>ory           | Title of proposed idea/ innovation  | Total<br>project<br>cost<br>(Rs. In<br>lakh) | Amt<br>GOI<br>assistan<br>ce (Rs.<br>In<br>lakh) | Incub<br>atee<br>share<br>(Rs. In<br>lakh) | Released<br>70% 1st<br>Instalme<br>nt (Rs.<br>In lakh) | 2nd<br>Installm<br>ent 30%<br>to be<br>released<br>(Rs. In<br>lakh) |
|-----------|---|---------------|--------------------------------|---|---|--|--|--|--|---|
| 1         | AARUPADAI VEEDU INSTITUE OF TECHNOLOGY, a constituent college of Vinayaka Missions Research Foundation ,Deemed to be University | Tamil<br>nadu | Vijay<br>Jayarama<br>n         | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Efficient Power Management System by Implementing Solid State Transformer   | 12.6000                                      | 10.7100  | 1.8910                                     | 7.4970   | 3.2130  |
| 2         | Adani University  | Gujarat       | Saxena<br>Tushar               | Entrep<br>reneurs<br>/MSM<br>E          | One-Click Sprinkler<br>technology to control<br>fire Sprinkler<br>manually through<br>AUTOVOLTZ-<br>Softwar-Console<br>from any place   | 15.0000                                      | 12.7500  | 2.2500                                     | 8.9250   | 3.8250  |
| 3         | Adhiyamaan<br>College of<br>Engineering   | Tamil<br>nadu | BAALA<br>DHINES<br>H A         | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Solar Membrane Distillation -Solar based Membrane distillation works on the principle of temperature and vapor pressure difference i.e, Membrane distillation is a thermal driven separation process. | 12.0000                                      | 10.2000  | 1.8000                                     | 7.1400   | 3.0600  |
| 4         | Adhiyamaan<br>College of<br>Engineering   | Tamil<br>nadu | G<br>YOGES<br>H                | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Smart Sensing<br>Technique for Health<br>Monitoring of<br>Existing Bridges  | 15.0000                                      | 12.7500  | 2.2500                                     | 8.9250   | 3.8250  |
| 5         | Adhiyamaan<br>College of<br>Engineering   | Tamil<br>nadu | M<br>SONALI                    | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Auto Irrigation, Soil<br>Monitoring and<br>Control for Better<br>Crop Yield and Soil<br>Quality   | 15.0000                                      | 12.7500  | 2.2500                                     | 8.9250   | 3.8250  |
| 6         | Adhiyamaan<br>College of<br>Engineering   | Tamil<br>nadu | VADHI<br>RAJAN<br>ACHUT<br>HAN | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Cloud Based<br>distance Relay with<br>Fault location<br>Mapping on Google<br>Map  | 14.0000                                      | 11.9000  | 2.1000                                     | 8.3300   | 3.5700  |
| 7         | Anand Institute of<br>Higher<br>Technology  | Tamil<br>nadu | Kanaga<br>Suba<br>Raja.S       | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | AI-based Vehicle<br>Parking System for<br>Smart Cities  | 17.0000                                      | 12.7500  | 4.2500                                     | 8.9250   | 3.8250  |

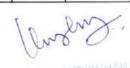
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पी. सम्बू आन्/V. RAMAKRISHMAN
उप निरंपाक/Dy. Director
भारत सरकार/Govt. of India
पुत्रा. तथु पूर्व मध्यम उपने मंजारत्य
Ministry of Micro, Small & Medium Enterprises
विकास आनुत्वा (सू. त. एवं म. छ्या) का कार्यात्व Office of the Day. Comm. (MSME)
निर्माण मन, नई दिल्ली-110108/Niman Bhawan, New Delhi-110168

| 8  | Anurag Group of<br>Institutions  | Telanga<br>na     | R Naga<br>Swetha                                       | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Secure Savers-<br>Monitoring<br>Adulteration and<br>Pilferage of<br>Petroleum Oil<br>tankers and logistic<br>service   | 18.0650 | 12.3250 | 5.7400      | 8.6280             | 3.6975 |
|----|--|-------------------|--|---|--|---------|---------|-------------|--------------------|--------|
| 9  | ASSOCIATION<br>OF LADY<br>ENTREPRENEU<br>RS OF INDIA   | Telanga<br>na     | Jammala<br>madaka<br>Amarnat<br>h                      | Entrep<br>reneurs<br>/MSM<br>E          | Automatic Food<br>Cooking Machine -<br>Buchuk  | 20.0000 | 12.7500 | 7.2500      | 8.9250             | 3.8250 |
| 10 | Bharath Institute<br>of Higher<br>Education and<br>Research                                  | Tamil<br>nadu     | Angeline<br>Raghu<br>Babu                              | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Trash to Treasure a Cost Effective Eco- Friendly Bioplastic from Agricultural Wastes for Use as Hospital Bed Covers  | 13.5000 | 11.4750 | 2.0250      | 8.0330             | 3.4425 |
| 11 | BharatiVidyapeet<br>h Deemed to be<br>University<br>College of<br>Engineering, Pune<br>India | Mahara<br>shtra   | AniketPr<br>abhakar<br>Dandge                          | Entrep<br>reneurs<br>/MSM<br>E          | Developing low cost<br>advance mechanism<br>for road maintenance<br>by using techniques<br>of road recycling   | 15.0000 | 12.7500 | 2.2500      | 8.9250             | 3.8250 |
| 12 | CHALAPATHI<br>INSTITUTE OF<br>PHARMACEUTI<br>CAL SCIENCES                                    | Andhra<br>pradesh | MS<br>CHALA<br>PATHI<br>EDUCA<br>TIONAL<br>SOCIET<br>Y | Entrep<br>reneurs<br>/MSM<br>E          | Rivaroxaban powder<br>for oral solutions and<br>Rivaroxaban<br>effervescent granules<br>to treat angina<br>pectoris, an Ischemic<br>heart disease drug.  | 26.6000 | 12.7500 | 13.850<br>0 | 8.9250             | 3.8250 |
| 13 | CHEBROLU<br>ENGINEERING<br>COLLEGE   | Andhra<br>pradesh | Vusa<br>Rohini   | Studen                                  | Aadhar controlled<br>automated polling<br>station with remote<br>monitoring  | 15.0000 | 15.0000 | 0.0000      | 10.5000            | 4.4500 |
| 14 | Chennai Institute<br>of Technology   | Tamil<br>nadu     | kodavati<br>sumanth                                    | Entrep<br>reneurs<br>/MSM<br>E          | Hydrogen powered electric Vehicle  | 15.0000 | 12.7500 | 2.2500      | 8.9250             | 3.8250 |
| 15 | Chennai Institute<br>of Technology   | Tamil<br>nadu     | M<br>Kayalviz<br>hi                                    | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Novel mass<br>screening Retina<br>Imaging for Severity<br>detection of<br>Alzheimers using<br>Deep learning<br>methods   | 15.0000 | 12.7500 | 2.2500      | 8.9250             | 3.8250 |
| 16 | Chennai Institute of Technology  | Tamil<br>nadu     | Partheeb<br>an   | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Cost Effective and Quickly Deployable Hybrid Composite Shelter - focuses on the material design of hybrid glass/Kevlar fiber reinforced polymer (FRP) composites that will be suitable for fabricating panels for the construction of emergency medical shelters | 15.0000 | 12.7500 | 2.2500      | 8.9250<br>KRISHNAN | 3.8250 |

| 17 | Chennai Institute<br>of Technology              | Tamil<br>nadu | Yuvares<br>h<br>Chandras<br>ekaran                 | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | FUSI(Filament<br>Utilization System) -<br>Recycled 3-D printed<br>filaments Recyclee<br>of 3-D printed waste<br>for reuse in 3D<br>printinting.   | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
|----|---|---------------|--|---|---|---------|---------|--------|---------|--------|
| 18 | CMR College of<br>Engineering and<br>Technology | Telanga<br>na | MERUG<br>U<br>SURES<br>H                           | Studen<br>t                             | Campus Mobility E-<br>Vehicle (SHHAR)   | 14.8100 | 14.8100 | 0.0000 | 10.3670 | 4.4430 |
| 19 | CMR Engineering<br>College                      | Telanga<br>na | ANKIRE<br>DDY<br>PALLI<br>SRINIV<br>ASULA<br>REDDY | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Device to Improve<br>Switching Speed and<br>Provide Better<br>Sensitivity at Low<br>Frequencies   | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 20 | CMR Engineering<br>College                      | Telanga<br>na | C<br>SYAMS<br>UNDAR                                | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Novel Eco-Friendly<br>Solid Waste<br>Management System<br>with Waste Heat<br>Recovery for Rural<br>Villages   | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 21 | CMR Engineering<br>College                      | Telanga<br>na | C<br>SYAMS<br>UNDAR                                | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Design and Development of an Affordable Portable Ventilator System for Patient Emergency Support  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 22 | CMR Engineering<br>College                      | Telanga<br>na | C<br>SYAMS<br>UNDAR                                | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Establishing Hybrid Hydrodynamic Assisted with Acoustic Cavitation Water Treatment Facility for High- Quality Drinking Water  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 23 | CMR Engineering<br>College                      | Telanga<br>na | MAMID<br>ALA<br>VIJAY<br>KARTHI<br>K               | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Solar Energy Based<br>Rickshaw<br>Ambulance for<br>Remote Locations   | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 24 | CMR Engineering<br>College                      | Telanga<br>na | SARAS<br>WATHI<br>NAGLA                            | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Water Quality Monitoring System- It aims to determine the contamination of water, leakage within pipeline, and also automatic measurement of parameters such as temperature, pH value, flow, color, conductivity in real time | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |

THE RESERVE TO SERVE STATE OF



मी. समसूच्यान/V. RAMAKRISHMAN उप निरंपान/Dy Director भारत संस्कार/Govt. of train स्वता, लग्नु गर्न महाराज्य प्राण्यात कार्य में महाराज्य प्राण्यात कार्य (n. स. १४ थ. उत्तम का कार्यान रिकार कार्य (n. स. १४ थ. उत्तम का कार्यान

| 25 | COIMBATORE<br>INSTITUTE OF<br>ENGINEERING<br>AND<br>TECHNOLOGY | Tamil<br>nadu     | Veeraku<br>mar<br>Adaikala<br>samy | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Development of Evacuated Tube Solar Air Collector Equipped with Wire Mesh for Direct Air Heating in Selected Agricultural Products                   | 15.1000 | 12.4100 | 2.6900 | 8.6870 | 3.7230 |
|----|--|-------------------|------------------------------------|---|--|---------|---------|--------|--------|--------|
| 26 | G.L. Bajaj<br>Institute of<br>Technology and<br>Management     | Uttar<br>pradesh  | PAWAN<br>KUMAR<br>GUPTA            | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Air purification and air conditioning by liquid mechanism.   | 10.1000 | 8.5850  | 1.5150 | 6.0100 | 2.5755 |
| 27 | Gayatri Vidya<br>Parishad College<br>of Engineering            | Andhra<br>pradesh | Ilahi<br>Shaik                     | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Marine Macro algae - a liquid agro bio fertilizer Plant for commercialization.   | 12.0000 | 10.2000 | 1.8000 | 7.1400 | 2.8600 |
| 28 | Gayatri Vidya<br>Parishad College<br>of Engineering            | Andhra<br>pradesh | Pragada<br>Venkata<br>Vinay        | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Low cost manual<br>tuber vegetable<br>product cleaning<br>machine  | 3.2000  | 2.7200  | 0.4800 | 1.9040 | 0.8160 |
| 29 | Haldia Institute of<br>Technology                              | West<br>bengal    | Radhara<br>ni Das                  | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Production of SiO2<br>Nano Powder from<br>Rice Husk (Crop<br>Residue) for its<br>Industrial Uses<br>Waste to Wealth                                  | 15.0000 | 12.7500 | 2.2500 | 8.9250 | 3.8250 |
| 30 | Hindusthan College of Engineering and Technology               | Tamil<br>nadu     | Jayanthi<br>S                      | Entrep<br>reneurs<br>/MSM<br>E          | Smart Coconut<br>Harvesting Device   | 12.5000 | 10.6250 | 1.8750 | 7.4380 | 3.1875 |
| 31 | Hindusthan<br>College of<br>Engineering and<br>Technology      | Tamil<br>nadu     | Ras<br>Mathew<br>Yanose            | Entrep<br>reneurs<br>/MSM<br>E          | Wind Turbine (Tail<br>Guided Vertical<br>Axis)   | 14.0000 | 11.9000 | 2.1000 | 8.3300 | 3.5700 |
| 32 | IIMT University<br>Meerut                                      | Uttar<br>pradesh  | AJAY<br>PARTA<br>P<br>SINGH        | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | STEERING CONTROLLED HEADLIGHT- two headlights for any vehicle, one is moveable with steering and another will be fixed and give the front visibility | 14.2000 | 12.0700 | 2.1300 | 8.4490 | 3.6200 |

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वी. शामकृष्णन/V. RAMAKRISHNAN
उप निर्वेशक/Dy. Director
गायद प्रायक्षात्र/Dy. Director
गायद प्रायक्षात्र/Govt. of India
गुरुष, लग्नु पूर्व गाय्या प्रयम गीवालग blinisty of Micro, Small & Medium Emorphics किया वाद्यत्त (स्. स. एवं म. उपाप) वर्ष कार्याच्या Ottoc of the Day. Comme. (MSME)

| 33 | IIMT University<br>Meerut                   | Uttar<br>pradesh | Sandeep<br>Kumar<br>Verma         | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Solar Tree- an artificial solar structure that looks like sculptural trees and exists from small scale (size of a bonsai tree) to large scale (about the size of a wind turbine) power plant. It is an independent unit that produces green energy and provides a place of comfort and energy for a wide variety of services | 14.7000 | 12.4950 | 2.2050 | 8.7470  | 3.7470 |
|----|---|------------------|-----------------------------------|---|--|---------|---------|--------|---------|--------|
| 34 | Inderprastha<br>Engineering<br>College      | Uttar<br>pradesh | Ankur<br>Kumar<br>Kushwah<br>a    | Studen<br>t                             | TripPay - paying the<br>fare in autorickshaws<br>by using NFC. (Near<br>Field<br>Communication)  | 12.0000 | 12.0000 | 0.0000 | 8.4000  | 2.6000 |
| 35 | Inderprastha<br>Engineering<br>College      | Uttar<br>pradesh | Aryan<br>Singhal                  | Studen<br>t                             | The Virtual Eye for visually impaired people   | 15.0000 | 15.0000 | 0.0000 | 10.5000 | 2.8000 |
| 36 | Institute of<br>Aeronautical<br>Engineering | Telanga<br>na    | Varanasi<br>Sai<br>Hrishike<br>sh | Studen<br>t                             | Well Being- an<br>advanced machine<br>learning and artificial<br>intelligence tool to<br>analyze and assess<br>the state of mind of<br>an individual   | 9.2000  | 9.2000  | 0.0000 | 6.4400  | 2.7600 |
| 37 | ISF College of<br>Pharmacy                  | Punjab           | Pooja<br>Chawla                   | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Synthesis of<br>Acetaminophen<br>(Paracetamol) in one<br>step A novel<br>approach  | 17.5000 | 11.9000 | 5.6000 | 8.3300  | 3.5700 |
| 38 | ISF College of Pharmacy                     | Punjab           | Rohit<br>Bhatia                   | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Development of Electrochemical Device for Detection of Glucose levels in Human Saliva  | 20.0000 | 12.7500 | 7.2500 | 8.9250  | 3.8250 |
| 39 | Jerusalem College<br>of Engineering         | Tamil<br>nadu    | JOHN<br>JEBARA<br>THINA<br>M N    | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Air conditioner cum<br>Air Sterilizer  | 7.5000  | 6.3750  | 1.1250 | 4.4630  | 1.9125 |
| 40 | Jerusalem College<br>of Engineering         | Tamil<br>nadu    | Parames<br>wari                   | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Multi-Functional<br>Blind Stick for<br>Visually Impaired<br>People   | 1.5000  | 1.2750  | 0.2250 | 0.8930  | 0.3825 |

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वी. रामकृष्णन्/V. RAMAKRISHNAN
उस निर्वेशक/Dv. Director
भारत सरकार/Covi. of India
श्रुट्य, असु तुने ग्रह्मम् क्यम् म जात्वर Ministry of March & Medium Enlargings Bases जारावा चि. स. एवं म. अवन) को कार्योक्स (कार्य कार्य के टिक County (MIME)

| 41 | Jerusalem College<br>of Engineering                                | Tamil<br>nadu   | S<br>Prabakar<br>an                | Entrep<br>reneurs<br>/MSM<br>E          | Unmanned Aquatic Drone -Underwater drones are used for underwater inspections of ships, pipelines and aquaculture. Underwater drones have huge potential in military applications.  | 11.0000 | 9.3500  | 1.6500 | 6.5450  | 2.8050 |
|----|--|-----------------|------------------------------------|---|---|---------|---------|--------|---------|--------|
| 42 | Jharkhand<br>Government Mini<br>Tool Room<br>Training Centre       | Jharkha<br>nd   | Saket<br>Kumar                     | Entrep<br>reneurs<br>/MSM<br>E          | OAS Well Drinking Water Purifier- to design a 'new generation domestic water purifier', using the novelties of OaÂ'S media, to avail 'Pure, Safe, and Healthy drinking water' in the households, at the low cost, irrespective of availability of electricity | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 43 | Jharkhand<br>Government Mini<br>Tool Room<br>Training Centre       | Jharkha<br>nd   | SHALIN<br>I<br>MAHAT<br>O          | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Smart Depression<br>Monitoring System   | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 44 | K.S.RANGASA<br>MY COLLEGE<br>OF<br>TECHNOLOGY                      | Tamil<br>nadu   | Pasupath<br>i V                    | Studen<br>t                             | Design and<br>Fabrication of<br>NanoJacquard for<br>Weaving machine   | 14.5000 | 14.5000 | 0.0000 | 10.1500 | 4.3500 |
| 45 | K.S.RANGASA<br>MY COLLEGE<br>OF<br>TECHNOLOGY                      | Tamil<br>nadu   | SHEEB<br>A M                       | Studen<br>t                             | SAFE TECH PEN - The gadget is mainly proposed for women's safety used in emergency times to get rid of the intruders  | 7.3000  | 7.3000  | 0.0000 | 5.1100  | 2.1900 |
| 16 | KAKATIYA<br>INSTITUTE OF<br>TECHNOLOGY<br>AND SCIENCE,<br>WARANGAL | Telanga<br>na   | BARGU<br>RAGHU                     | Studen<br>t                             | Design and Fabrication of Reaper And Binder Machine for Leafy Vegetables  | 15.0000 | 15.0000 | 0.0000 | 10.5000 | 4.5000 |
| 47 | KAKATIYA<br>INSTITUTE OF<br>TECHNOLOGY<br>AND SCIENCE,<br>WARANGAL | Telanga<br>na   | Veerati<br>Raju                    | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Real time parking<br>space identification<br>using Computer<br>vision in Smart cities   | 16.4000 | 12.7500 | 3.6500 | 8.9250  | 3.8250 |
| 48 | Kasegaon Education Societys Rajarambapu Institute of Technology    | Mahara<br>shtra | Omkar<br>Murlidha<br>r<br>Mirajkar | Studen<br>t                             | Advanced poultry raking and manure collection machine   | 5.8000  | 5.8000  | 0.0000 | 4.0600  | 1.7400 |

पी). शावस्त्रकान / V. RAMAKRISHNAN जम निदेशक / Dy. Emoctor जमस्य सरकार / Govt. of India स्टब्स, हासू प्रकार प्रकार प्रकार विवास स्थानिक क्षिणात होते । असे स्थान प्रकार प्रकार का स्थानिक क्षिणात होते हैं है । असे असे स्थानिक क्षिणात होते हैं है । उसे असे स्थानिक क्षिणात होते हैं । असे स्थानिक क्ष्मित होते हैं । असे स्थानिक होते होते हैं । असे स्थानिक होते हैं । असे स्थानिक होते हैं । असे स्था

| 49 | KINGS<br>ENGINEERING<br>COLLEGE                           | Tamil<br>nadu     | Saravana<br>n<br>Ilangova<br>n     | Entrep<br>reneurs<br>/MSM<br>E          | Food Processing in<br>Transportation using<br>Phase change<br>Material (PCM)<br>Technology  | 15.0000 | 12.7500 | 2.2500      | 8.9250  | 3.8250 |
|----|---|-------------------|------------------------------------|---|---|---------|---------|-------------|---------|--------|
| 50 | KIT College of<br>Engineering,<br>Autonomous,<br>Kolhapur | Mahara<br>shtra   | Sangram<br>Vikas<br>Patil          | Entrep<br>reneurs<br>/MSM<br>E          | Sugarcane Planting<br>Machine   | 14.0000 | 11.9000 | 2.1000      | 8.3300  | 3.5000 |
| 51 | Kongunadu<br>College of<br>Engineering and<br>Technology  | Tamil<br>nadu     | Sasikala<br>Rajesh                 | Entrep<br>reneurs<br>/MSM<br>E          | A Novel Process for<br>recycling Post-<br>Consumer PLA<br>(Poly Lactic Acid)<br>Waste for<br>Sustainable<br>Production of Methyl<br>Lactate by catalytic<br>Methanolysis.   | 24.9200 | 12.7500 | 12.170<br>0 | 8.9250  | 3.8250 |
| 52 | KPR Institute of<br>Engineering and<br>Technology         | Tamil<br>nadu     | Chandra<br>prabha S                | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Navigation<br>Assistance Tool   | 14.5000 | 12.3250 | 2.1750      | 8.6280  | 3.6975 |
| 53 | KPR Institute of<br>Engineering and<br>Technology         | Tamil<br>nadu     | GOWTH<br>AM<br>SEKAR               | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Tracking of Childs<br>nutritional status and<br>physical health<br>(well-being)   | 5.4000  | 4.5900  | 0.8100      | 3.2130  | 1.3770 |
| 54 | KPR Institute of<br>Engineering and<br>Technology         | Tamil<br>nadu     | IMAYA<br>GANES<br>H S              | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | A drone using<br>Autodesk Fusion 360<br>Software for Disaster<br>Mitigation and Relief  | 11.0400 | 9.3840  | 1.6560      | 6.5690  | 2.8152 |
| 55 | KPR Institute of<br>Engineering and<br>Technology         | Tamil<br>nadu     | Satheesh<br>Kumar<br>Shanmug<br>am | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Modern electrophoresis device for early detection of sickle cell anaemia among the tribal communities in India  | 14.5000 | 12.3250 | 2.1750      | 8.6280  | 3.6975 |
| 56 | KPR Institute of<br>Engineering and<br>Technology         | Tamil<br>nadu     | SENTHI<br>L<br>KUMAR<br>R          | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | A Bio-Medical Device for Health Care Application Design and Development of Polylactic Acid (PLA) Polymer Based Invasive Cannula Sensor to Monitor Patients Invasive Blood Pressure (BP), Temperature, Electrocardiography | 13.5000 | 11.4750 | 2.0250      | 8.0330  | 3.4425 |
| 57 | KUPPAM<br>ENGINEERING<br>COLLEGE                          | Andhra<br>pradesh | J<br>BHAVY<br>ASRI                 | Studen<br>t                             | GreenDoctor A Reliable Food Toxic detector.   | 15.0000 | 15.0000 | 0.0000      | 10.5000 | 4.5000 |

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उप निर्देशक/Dy. Director
भारत सरकार/Govt. of India
स्वार, लगु एवं गव्यम स्थाम मंत्रात्य Ministry of Micro, Small & Medium Enterprises विकास आयुद्ध (मृ. स. एवं म. स्वाम) का अग्राहित्य Office of the Dev. Commr. (MSAME)

| 58 | Madanapalle<br>Institute of<br>Technology and<br>Science             | Andhra<br>pradesh | SHARW<br>AN<br>RAM                  | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Unmanned Aerial<br>System for<br>acquisition of crime<br>evidences  | 9.7300  | 8.2700                | 1.4590   | 5.7890                      | 2.4810 |
|----|--|-------------------|-------------------------------------|---|---|---------|-----------------------|----------|-----------------------------|--------|
| 59 | Mahendra<br>Engineering<br>College                                   | Tamil<br>nadu     | Sivakum<br>ar<br>Ponmalai           | Entrep<br>reneurs<br>/MSM<br>E          | Design and Fabrication of Automatic Poultry Feeder Cum Egg Collector Using AI   | 12.0000 | 10.2000               | 1.8000   | 7.1400                      | 3.0600 |
| 50 | MALLA REDDY<br>ENGINEERING<br>COLLEGE                                | Telanga<br>na     | Ganesh<br>Rao<br>Duddu              | Studen<br>t                             | Develop a smart application to monitor the health of roads and trigger the reports to concern authorities for maintenance.                  | 16.5000 | 15.0000               | 1.5000   | 10.5000                     | 4.5000 |
| 51 | Manipal Academy<br>of Higher<br>Education,<br>Manipal                | Karnata<br>ka     | Rudra<br>Nath<br>Ghosh              | Entrep<br>reneurs<br>/MSM<br>E          | Production of Mesenchymal stem cell-laden hydrogel dressing (Derma- heal) for wound management.   | 15.0000 | 12.7500               | 2.2500   | 8.9250                      | 3.8250 |
| 52 | Mar Ephraem<br>College of<br>Engineering and<br>Technology           | Tamil<br>nadu     | ANISH<br>JOHN<br>PAUL M             | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Coconut Leaf Midrib<br>Extractor  | 15.0000 | 12.7500               | 2.2500   | 8.9250                      | 3.8250 |
| 53 | Marathwada<br>Accelerator for<br>Growth and<br>Incubation<br>Council | Mahara<br>shtra   | Sunil<br>Kulbhus<br>han<br>Sahuji   | Entrep<br>reneurs<br>/MSM<br>E          | Device for<br>atraumatic removal<br>of dental crowns and<br>bridges   | 9.3000  | 7.9050                | 1.3950   | 5.5340                      | 2.3715 |
| 54 | MATRUSRI<br>ENGINEERING<br>COLLEGE                                   | Telanga<br>na     | Nagul<br>Shribala                   | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Battery Health<br>Management System   | 2.3000  | 1.9550                | 0.3450   | 1.3690                      | 0.5860 |
| 65 | MATRUSRI<br>ENGINEERING<br>COLLEGE                                   | Telanga<br>na     | shaik<br>haseena<br>begum           | Studen<br>t                             | Seed Planting Robot   | 2.5000  | 2.5000                | 0.0000   | 1.7500                      | 0.7500 |
| 66 | MM College of<br>Pharmacy  | Haryan<br>a       | Neera<br>batra                      | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | An Automated Car<br>Window Opening<br>System on Detection<br>of Carbon Monoxide   | 14.7500 | 12.5380               | 2.2130   | 8.7770                      | 3.7614 |
| 57 | NANDHA<br>ENGINEERING<br>COLLEGE                                     | Tamil<br>nadu     | Krishna<br>Gandhi<br>Pachiapp<br>an | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Smart Solar Waste<br>Segregation and<br>Management System<br>using Internet of<br>Things  | 14.7500 | 12.5380               | 2.2120   | 8.7770                      | 3.7605 |
| 58 | NATIONAL<br>ENGINEERING<br>COLLEGE                                   | Tamil<br>nadu     | A<br>Saravana<br>selvan             | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | An Intelligent Device to classify organic and non organic fruit and vegetable items using Non - Destructive Infrared Thermography Technique | 9.0000  | 7.6500<br>बी. समकृष्ट | नेदेशक/D | 5.3550  MAKRISHIN/ Director | 2.2950 |

Ministry of Micro, Small & Medium Enterprises
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Other origins (t), st, vd st, story

| 69 | Pandit Deendayal<br>Energy University           | Gujarat           | Aditya<br>Suraj<br>Shukla                         | Entrep<br>reneurs<br>/MSM<br>E          | Solar Pavement<br>Green Building<br>Material from<br>recycled Plastic<br>Waste  | 15.0000 | 12.7500 | 2.2500 | 8.9250 | 3.8250 |
|----|---|-------------------|---|---|---|---------|---------|--------|--------|--------|
| 70 | Pandit Deendayal<br>Energy University           | Gujarat           | Aditya<br>Suraj<br>Shukla                         | Entrep<br>reneurs<br>/MSM<br>E          | Composite Road Slab (Modular Smart Road) - Air purifier paver block leads to minimization of air pollution that hereby decreases the harmful effects of those gases to a certain extent by photocatalysis | 15.0000 | 12.7500 | 2.2500 | 8.9250 | 3.8250 |
| 71 | Pandit Deendayal<br>Energy University           | Gujarat           | Shani<br>Chandra<br>kant<br>Pandya                | Entrep<br>reneurs<br>/MSM<br>E          | Solar Powered Drone<br>Charging Station for<br>the Armed forces and<br>delivery of Courier  | 15.0000 | 12.7500 | 2.2500 | 8.9250 | 3.8250 |
| 72 | QIS College of<br>Engineering and<br>Technology | Andhra<br>pradesh | Madduri<br>Chandra<br>keerthi                     | Studen<br>t                             | A SMART<br>HELMET   | 5.0000  | 5.0000  | 0.0000 | 3.5000 | 1.5000 |
| 73 | Ramco Institute<br>of Technology                | Tamil<br>nadu     | Arun<br>Kumar A                                   | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | LED Powered Endo<br>Illuminator for<br>Vitreous Surgery   | 14.5000 | 12.3250 | 2.1750 | 8.6280 | 3.6970 |
| 74 | Ramco Institute<br>of Technology                | Tamil<br>nadu     | Ashokku<br>mar<br>Mariarat<br>hinam               | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Portable Rotary<br>Fluidized bed Heat<br>Pump Dryer for<br>Herbal Leaves  | 15.0000 | 12.7500 | 2.2500 | 8.9250 | 3.8250 |
| 75 | Ramco Institute<br>of Technology                | Tamil<br>nadu     | Pavithra<br>n P                                   | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Multipurpose Wheel chair  | 1.8280  | 1.5540  | 0.2740 | 1.0880 | 0.4661 |
| 76 | Ramco Institute<br>of Technology                | Tamil<br>nadu     | Santhana<br>Maruthu<br>Pandian<br>Marutha<br>ppan | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | MUSA-Holder (To<br>protect Banana Trees<br>from heavy winds)  | 12.8750 | 10.9430 | 1.9310 | 7.6600 | 3.2829 |
| 77 | Rathinam<br>Technical<br>Campus                 | Tamil<br>nadu     | RAMAN<br>RADHA<br>KRISHN<br>AN                    | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Adhesive Non<br>Surgical Hearing<br>device  | 14.6000 | 12.4100 | 2.1900 | 8.6870 | 3.7230 |
| 78 | RMK<br>ENGINEERING<br>COLLEGE                   | Tamil<br>nadu     | Mithun<br>Balaji                                  | Studen<br>t                             | Made in And for India Freelancing Portal-To create the demand for freelance job roles be able to known by every Unemployed people with their unique skills  | 13.2000 | 12.2000 | 1.0000 | 8.5400 | 3.6600 |

वी. रामकृष्णम् / V. RAMAKRISHNAM
उप निर्मेशक / Dy. Director
भारत शर्मार / Govt. of India
सुकर. लेखु एवं गाम्यम उपम मंत्रहरूव Ministry of Micro. Small & Medium Enterphisms (बक्त आहुत (तु. स. एवं ग. क्या) अ कार्यात्म Once of the Day Comme (MSME)

| 79 | Saveetha<br>Engineering<br>College   | Tamil<br>nadu | Ganapat<br>hi<br>Durairaj                         | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Design, Development and Field Evaluation of Power Operated Cono-Weeder for System of Rice Intensification   | 2.2500  | 1.9120  | 0.3370  | 1.3380 | 0.5736 |
|----|--------------------------------------|---------------|---|---|---|---------|---------|---------|--------|--------|
| 80 | Sengunthar<br>Engineering<br>College | Tamil<br>nadu | S<br>LAKSH<br>MI<br>PRIYA                         | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Nanowizard - Herbal<br>Nanovesicles Based<br>Bio Fertiliser For<br>Agricultural<br>Applications.  | 15.0000 | 12.7500 | 2.2500  | 8.9250 | 2.4900 |
| 81 | SETHU<br>INSTITUTE OF<br>TECHNOLOGY  | Tamil<br>nadu | A Sabah<br>Afroze                                 | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Improvised<br>Odourless Napkin<br>Disposal Machine  | 15.0000 | 12.7500 | 2.2500  | 8.9250 | 3.8250 |
| 82 | SETHU<br>INSTITUTE OF<br>TECHNOLOGY  | Tamil<br>nadu | A Sabah<br>Afroze                                 | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Accurate classification and detection of Osteoarthritis in Knees using thermal images   | 15.0000 | 12.7500 | 2.2500  | 8.9250 | 3.8250 |
| 83 | SETHU<br>INSTITUTE OF<br>TECHNOLOGY  | Tamil<br>nadu | Akilande<br>swari V                               | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Smart Assistive<br>Robot for Hearing<br>Impaired Children   | 15.0000 | 12.7500 | 2.2500  | 8.9250 | 3.8250 |
| 84 | SETHU<br>INSTITUTE OF<br>TECHNOLOGY  | Tamil<br>nadu | Brindha   | Studen<br>t                             | BIOPOLYMER FOR ECOFRIENDLY BAGS - Water- soluble bags are made from a derivative composed of polyvinyl alcohol (PVA) and organic plastics (water- soluble synthetic polymer) which dissolve in contact with water | 11.0000 | 11.0000 | 0.0000  | 7.7000 | 3.3000 |
| 85 | SETHU<br>INSTITUTE OF<br>TECHNOLOGY  | Tamil<br>nadu | S Siva<br>Ranjani<br>Sankar<br>Ganesh             | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Automated Bagging<br>Machine for the<br>Oyster Mushroom<br>Cultivation  | 15.0000 | 12.7500 | 2.2500  | 8.9250 | 3.8250 |
| 86 | SETHU<br>INSTITUTE OF<br>TECHNOLOGY  | Tamil<br>nadu | Seeni<br>Mohame<br>d Aliar<br>Maraikk<br>ayar S M | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Bionic Arm for<br>Amputees  | 15.0000 | 12.7500 | 2.2500  | 8.9250 | 3.8250 |
| 87 | SETHU<br>INSTITUTE OF<br>TECHNOLOGY  | Tamil<br>nadu | SRIVAR<br>SHINI<br>SETHU<br>RAMAN                 | Studen<br>t                             | Live wire current<br>detector from 2-5<br>meters(LTLC<br>Detector)  | 10.7500 | 10.7500 | 0.000.0 | 7.5250 | 3.2250 |

| 88 | SETHU<br>INSTITUTE OF<br>TECHNOLOGY       | Tamil<br>nadu | Venkat<br>M                     | Studen t                                | Tyre Pressure Regulator - it fills air in the tyre of the vehicle in both static and dynamic condition. So no need to stop vehicle in any unsafe area     | 15.0000 | 15.0000 | 0.0000 | 10.5000 | 4.5000 |
|----|---|---------------|---------------------------------|---|---|---------|---------|--------|---------|--------|
| 89 | SPHOORTHY<br>ENGINEERING<br>COLLEGE       | Telanga<br>na | SUSHA<br>NT<br>KUMAR<br>TIWARI  | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Protective Face<br>Shield for Municipal<br>Corporation Workers  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 90 | Sri Krishna<br>College of<br>Technology   | Tamil<br>nadu | D.Mohit<br>Kumar                | Studen<br>t                             | Robotic arm with<br>sensing and anti-<br>drone technology to<br>secure the border   | 14.5000 | 14.5000 | 0.0000 | 10.1500 | 3.8500 |
| 91 | Sri Krishna<br>College of<br>Technology   | Tamil<br>nadu | Haripriy<br>a<br>Pachamu<br>thu | Studen<br>t                             | Fish Feeding and<br>Disease Prediction<br>System using<br>Machine Learning  | 8.5000  | 8.5000  | 0.0000 | 5.9500  | 2.5500 |
| 92 | Sri Krishna<br>College of<br>Technology   | Tamil<br>nadu | VIJAYA<br>NDRAH<br>ARI A P      | Studen<br>t                             | Smart Vest for Coal<br>Mine Workers   | 15.0000 | 15.0000 | 0.0000 | 10.5000 | 4.5000 |
| 93 | Sri Ramakrishna<br>Engineering<br>College | Tamil<br>nadu | JEEVIK<br>A<br>KRISHN<br>AN     | Studen<br>t                             | Iot based coal mine<br>safety and health<br>monitoring system<br>using lora   | 15.3300 | 15.0000 | 0.3300 | 10.5000 | 4.5000 |
| 94 | Sri Sri University                        | Odisha        | Ayush<br>Sharma                 | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Plant-Based Meat Alternative. To eliminate animals birds from the food supply chain but not compromise on the taste, texture functional benefits of meat. | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 95 | St Josephs<br>College of<br>Engineering   | Tamil<br>nadu | Sharfaras<br>J                  | Studen<br>t                             | Electric Shock<br>Accident Prevention<br>System (E-SAPS)  | 12.0000 | 12.0000 | 0.0000 | 8.4000  | 3.6000 |
| 96 | St Josephs<br>College of<br>Engineering   | Tamil<br>nadu | Sivaranja<br>ni G               | Studen<br>t                             | Saffron cultivation<br>using assorted<br>modern techniques  | 8.7500  | 8.7500  | 0.0000 | 6.1250  | 2.5000 |
| 97 | St Josephs<br>College of<br>Engineering   | Tamil<br>nadu | Venkates<br>hbabu R             | Studen<br>t                             | Solarboat   | 14.0000 | 14.0000 | 0.0000 | 9.8000  | 4.2000 |
| 98 | ST. MARTINS<br>ENGINEERING<br>COLLEGE     | Telanga<br>na | KONGA<br>BHARA<br>THI           | Studen<br>t                             | Development of Horticultural Manned Robot for Ripe Mango Fruit Plucking   | 11.0000 | 11.0000 | 0.0000 | 7.7000  | 3.3000 |

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ही. रामकृष्णन/V. RAMAKRISHMAN उस निदेशक/Oy Director भारत सरकार/Covt of India भारत सरकार/Covt of India Mustry Chilero, Small & Medicas Enless Balant sneati (तु. स. १४ म. १४११) का कार्यक्रम प्रभवित कार्या (तु. स. १४ म. १४११) का कार्यक्रम प्रभवित कार्या (तु. स. १४ म. १४११)

| 99  | ST. MARTINS<br>ENGINEERING<br>COLLEGE  | Telanga<br>na | Patil<br>Snehalat<br>ha            | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Economical Design of the Slab by Using HDPE Balls -Bubble Deck slab is one of these techniques which reduce the volume of concrete in a structure or structural element by introduction of High DensityPolyEthylene (HDPE). | 8.7500  | 7.4380  | 1.3130 | 5.2070 | 2.2300 |
|-----|--|---------------|------------------------------------|---|---|---------|---------|--------|--------|--------|
| 100 | ST. MARTINS<br>ENGINEERING<br>COLLEGE  | Telanga<br>na | SIRASA<br>LA<br>NAVEE<br>N         | Studen<br>t                             | Plastic Pavement<br>Blocks  | 11.0000 | 11.0000 | 0.0000 | 7.7000 | 3.3000 |
| 101 | St.Josephs<br>Institute of<br>Technology   | Tamil<br>nadu | GNANA<br>KOUSA<br>LYA C            | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Passageway Devices<br>of Fishing Vessels  | 12.5000 | 10.6250 | 1.8750 | 7.4380 | 3.1875 |
| 102 | SURYA GROUP<br>OF<br>INSTITUTIONS -<br>SCHOOL OF<br>ENGINEERING<br>AND<br>TECHNOLOGY             | Tamil<br>nadu | M<br>SANKA<br>R                    | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Fabrication of Light Weight Magnesium Nano Composite Material for Automobile and Aerospace Applications   | 7.8500  | 6.6720  | 1.1780 | 4.6700 | 2.0016 |
| 103 | Swami Keshvanand Institute of Technology, Management and Gramothan                               | Rajasth<br>an | Pooja<br>Choudha<br>ry             | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | IoT-AI Based Smart<br>Irrigation System   | 15.0000 | 12.7500 | 2.2500 | 8.9250 | 3.2537 |
| 104 | TKR College of<br>Engineering and<br>Technology  | Telanga<br>na | Bodduka<br>nti<br>Karthik<br>Kumar | Studen<br>t                             | Smart Wearables for<br>Rescuers And<br>Victims  | 8.0000  | 8.0000  | 0.0000 | 5.6000 | 2.4000 |
| 105 | TKR College of<br>Engineering and<br>Technology  | Telanga<br>na | PERIKE<br>ENOSH                    | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Unmanned surface vehicle for defense and civilian application - to built a vessel which will not come to the shore again which only transmit required by surveillance   | 20.0000 | 12.7500 | 7.2500 | 8.9250 | 3.7750 |
| 106 | Vallurupalli<br>Nageswara Rao<br>Vignana Jyothi<br>Institute of<br>Engineering and<br>Technology | Telanga<br>na | PRAKA<br>SH<br>KODAL<br>I          | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Screening of Salt<br>Tolerance in Plants<br>using Internet of<br>Things and Machine<br>Learning   | 18.0000 | 12.7500 | 5.2500 | 8.9250 | 3.8250 |
| 107 | Velammal<br>Institute of<br>Technology   | Tamil<br>nadu | B<br>SRIDEV<br>I                   | Entrep<br>reneurs<br>/MSM<br>E          | REDPAL- A<br>Wristwatch based<br>assistance for old age<br>people   | 9.7500  | 8.2870  | 1.4620 | 5.8010 | 2.4861 |

| 108 | Velammal<br>Institute of<br>Technology                                   | Tamil<br>nadu | DINESH<br>KUMAR<br>CHAND<br>HRASE<br>KARAN | Entrep<br>reneurs<br>/MSM<br>E          | Long Endurance<br>Battery Operated<br>Agriculture Spray<br>Drone   | 12.5000 | 10.6250 | 1.8750 | 7.4380 | 3.1875 |
|-----|--|---------------|--|---|--|---------|---------|--------|--------|--------|
| 109 | Velammal<br>Institute of<br>Technology                                   | Tamil<br>nadu | Giri J                                     | Entrep<br>reneurs<br>/MSM<br>E          | AUTOMATIC VIBRO POLISHING SYSTEM - a technique for automating the mechanical and chemical finishing of diverse shaped items  | 13.4150 | 11.4030 | 2.0120 | 7.9820 | 3.4209 |
| 110 | Velammal<br>Institute of<br>Technology                                   | Tamil<br>nadu | Shanmug<br>araj G                          | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | A Laser stimulated<br>touch responsive<br>frame for non-touch<br>screen laptops  | 5.5000  | 4.6760  | 0.8260 | 3.2730 | 1.4028 |
| 111 | Vels Institute of<br>Science,<br>Technology and<br>Advanced Studies      | Tamil<br>nadu | ANAND<br>AN R                              | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Reconnaissance of<br>Geospatial Mapping<br>To Navigate Person<br>In Multipath Indoor<br>Environment Using<br>Virtual Reality In<br>Airport   | 17.0000 | 12.7500 | 4.2500 | 8.9250 | 3.8250 |
| 112 | Vels Institute of<br>Science,<br>Technology and<br>Advanced Studies      | Tamil<br>nadu | BRIND<br>HA<br>DEVI P                      | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Sustainable Use of<br>Fruit and Vegetable<br>waste to Enhance<br>Food Packaging<br>Performance   | 15.0000 | 12.7500 | 2.2500 | 8.9250 | 3.8250 |
| 113 | Vels Institute of<br>Science,<br>Technology and<br>Advanced Studies      | Tamil<br>nadu | Shanmug<br>araj A M                        | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Self - healing anticorrosive nanocomposite coatings on metalm - a technology in controlling metallic corrosion using polymer based nanocomposites and thereby improving the life span of the metals, which are exposed to harsh environments | 15.0000 | 12.7500 | 2.2500 | 8.9250 | 3.8250 |
| 114 | VIDYA JYOTHI<br>INSTITUTE OF<br>TECHNOLOGY                               | Telanga<br>na | R Raju<br>nayak                            | Studen<br>t                             | DarzaniyaSyuta -<br>Smart Wearable<br>Handbag for Women<br>Safety  | 10.7200 | 10.7200 | 0.0000 | 7.5040 | 3.2160 |
| 115 | Vinayaka<br>Missions<br>Kirupananda<br>Variyar<br>Engineering<br>College | Tamil<br>nadu | Raja<br>Subrama<br>ni                      | Studen<br>t                             | Birds and Animals<br>Intrusion Avoidance<br>System using IOT to<br>reduce the crop<br>losses in Agriculture  | 10.0000 | 10.0000 | 0.0000 | 7.0000 | 3.0000 |
| 116 | Vishnu institute<br>of pharmaceutical<br>education and<br>research       | Telanga<br>na | Gowrish<br>etty<br>Srinivas                | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Development of a<br>novel air purifier for<br>destroying COVID,<br>other virus, bacteria<br>and indoor air<br>pollutants   | 12.0000 | 10.2000 | 1.8000 | 7.1400 | 3.0600 |

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| 117 | Vishnu institute<br>of pharmaceutical<br>education and<br>research  | Telanga<br>na  | Velivela<br>Venkata<br>Shiva<br>Rajendra<br>Prasad | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Development of an<br>affordable test kit for<br>early detection of<br>colon cancer and<br>GIT disorders  | 13.8000 | 11.7300 | 2.0710       | 8.2110  | 3.5190 |
|-----|---|----------------|--|---|--|---------|---------|--------------|---------|--------|
| 118 | Dr MGR<br>Educational and<br>Research Institute                     | Tamil<br>nadu  | JAWAH<br>AR<br>PRAKA<br>SH M                       | Studen<br>t                             | DUAL FILAMENT EXTRUDER IN 3D PRINTING WITH DUAL HOT END EXTRUSION -A dual extruder 3D printer is an FDM- type 3D printer with two extruders. Each extruder can print with a different filament material.       | 15.0000 | 15.0000 | 0.0000       | 10.5000 | 4.5000 |
| 119 | Dr MGR<br>Educational and<br>Research Institute                     | Tamil<br>nadu  | R<br>Logeswa<br>ran                                | Studen<br>t                             | Energy Efficient Pervaporative Thermal Management System for electric vehicle batteries- The proposed solution qualitatively provides cooling at uncertain conditions even when the system lacks power supply. | 13.4000 | 13.4000 | 0.0000       | 9.3800  | 2.0100 |
| 120 | Haldia Institute of<br>Technology                                   | West<br>bengal | Mukesh<br>Singh                                    | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Development of<br>nano-composite film<br>as a packaging<br>material enhancing<br>shelf-life and sensing<br>microbial<br>contamination of cut<br>vegetables and fruits  | 15.0000 | 12.7500 | 2.2500       | 8.9250  | 3.8250 |
| 121 | Haldia Institute of<br>Technology                                   | West<br>bengal | Siddhart<br>ha<br>Samanta                          | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Conducting polymer based water purifiers that are removed heavy metal ions such as As(V), As(III), Pb(II), Hg(II), Cr(VI) from waste water.  | 15.0000 | 12.7500 | 2.2500       | 8.9250  | 3.8250 |
| 122 | ICAR-Central<br>Research Institute<br>for Jute and<br>Allied Fibres | West<br>bengal | Piyali<br>Dey                                      | Studen<br>t                             | Development of fire<br>retardant jute fibre<br>by nano-coating   | 15.0000 | 15.0000 | 0.0000       | 10.5000 | 4.5000 |
| 123 | INSTITUTE OF<br>PHARMACY &<br>TECHNOLOGY<br>SALIPUR                 | Odisha         | SIDHAR<br>THA<br>SANKA<br>R KAR                    | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | A new and improved industrially viable manufacturing process for Gabapentin  | 15.0000 | 12.7500 | 2.2500       | 8.9250  | 3.8250 |
| 124 | karpagam college<br>of engineering                                  | Tamil<br>nadu  | Bharanid<br>haran S                                | Studen<br>t                             | Fabrication of Bio-<br>Based Films from<br>Plant Mucilages for<br>Food Preservation  | 15.0000 | 15.0000 | 0.0000<br>MW | 10,5600 | 4.5000 |

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| 125 | Ramco Institute<br>of Technology                                    | Tamil<br>nadu     | M<br>Kanagas<br>abapathy                | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Cost Effective Fabrication of Hybrid Capattery with High Energy Density and Power Density as an Energy Storage Device   | 12.8000 | 10.8800 | 1.9200  | 7.6160  | 3.2640 |
|-----|---|-------------------|---|---|---|---------|---------|---------|---------|--------|
| 126 | Sri Ramakrishna<br>Engineering<br>College                           | Tamil<br>nadu     | DHARM<br>ASEEL<br>AN K                  | Studen<br>t                             | Stress Buster for<br>detecting and<br>reducing mental<br>stress automatically   | 17.0000 | 15.0000 | 2.0000  | 10.5000 | 4.5000 |
| 127 | Yenepoya<br>Deemed to be<br>University                              | Karnata<br>ka     | Vivek<br>Ghate                          | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Localized Delivery of Cyclosporine-A to Cause Thickening o the Peri-Implant Mucosa during the Placement of Dental Implants                                      | 13.0000 | 11.0500 | 1.9500  | 7.7350  | 3.3150 |
| 128 | KONERU<br>LAKSHMAIAH<br>EDUCATION<br>FOUNDATION                     | Andhra<br>pradesh | Burra V<br>L S<br>Prasad                | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Technology<br>development for<br>faster, cheaper and<br>diverse single<br>domain antibodies<br>for disease<br>prognostics,<br>diagnostics and<br>therognostics. | 18.0000 | 12.7500 | 5.2500  | 8.9250  | 3.8250 |
| 129 | KONERU<br>LAKSHMAIAH<br>EDUCATION<br>FOUNDATION                     | Andhra<br>pradesh | Kishore<br>Bodagala                     | Entrep<br>reneurs<br>/MSM<br>E          | AI-based Portable Track Geometry Measurement System - Railway track defect detection  | 22.0000 | 12.7500 | 9.2500  | 8.9250  | 3.8250 |
| 130 | M.Kumarasamy<br>College of<br>Engineering                           | Tamil<br>nadu     | JEYAG<br>ANESH<br>KUMAR<br>KAILAS<br>AM | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | J.A.R.V.I.S Virtual<br>Assistant for the<br>Divyangjan  | 1.9600  | 1.6660  | 0.2940  | 1.1660  | 0.4998 |
| 131 | Shri Madhwa<br>Vadiraja Institute<br>of Tehnology and<br>Management | Karnata<br>ka     | Sachin<br>Sadashiv<br>Bhat              | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Magnetic Surgical<br>Sponge Detection<br>System   | 11.5000 | 9.7750  | 1.7250  | 6.8430  | 2.9325 |
| 132 | VELAMMAL<br>COLLEGE OF<br>ENGINEERING<br>AND<br>TECHNOLOGY          | Tamil<br>nadu     | Gobinath<br>Arumuga<br>m                | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Artificial Intelligence<br>Enabled robotic<br>stacker for<br>Mechanized<br>Distribution of food<br>grains   | 8.6700  | 7.3700  | 1.3010  | 5.1590  | 2.2110 |
| 133 | VELAMMAL<br>COLLEGE OF<br>ENGINEERING<br>AND<br>TECHNOLOGY          | Tamil<br>nadu     | Jothi<br>vignesh<br>Ramamo<br>orthy     | Studen<br>t                             | PORTABLE TOOL HOLDING DEVICE FOR FRICTION WELDING MACHINE - to design a tool holding device which simplifies the work and improve the accuracy of the welding.  | 1.4600  | 1.4600  | 0.000.0 | 1.0220  | 0.4380 |

यी. रामकृष्णन्/V. RAMAKRISHWA या निवंशक/Dy. Director नारत शरकार/Govt of trusa सहस्य राष्ट्र एवं गच्यम प्रत्या मंनावार स्वारत्य हो स्वारत होता से Medium Emergia दिल्ला सार्था है, स. एवं न स्वार्ग का कार्या

| 142 | KONERU<br>LAKSHMAIAH<br>EDUCATION<br>FOUNDATION             | Andhra<br>pradesh | RI<br>VENKA<br>TA<br>SIVA<br>RAMAK<br>RISHNA | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Agro-industrial<br>residues utilization<br>for economical<br>production of Levan<br>biopolymer   | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
|-----|---|-------------------|--|---|--|---------|---------|--------|---------|--------|
| 141 | KONERU<br>LAKSHMAIAH<br>EDUCATION<br>FOUNDATION             | Andhra<br>pradesh | Burra V<br>L S<br>Prasad                     | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Design and Development of HH (Healthy Healers (TM)) Foot wearables   | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 140 | GIET<br>UNIVERSITY  | Odisha            | Sambit<br>Sahoo                              | Entrep<br>reneurs<br>/MSM<br>E          | Banking National Security and Governance with Biocode -It is a combination of 8 complex biometrics, integrated software system, AI/ML, block chain and big data analytics to map an individuals identity for making a secure financial transactions without mobile, cards, OTP, PIN, password etc. | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 139 | Francis Xavier Engineering College, Tirunelveli, Tamil Nadu | Tamil<br>nadu     | KANNA<br>N M                                 | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Solar Tracker for<br>Heavy Solar<br>Collectors (Dual axis<br>method)   | 12.0000 | 10.2000 | 1.8000 | 7.1400  | 3.0600 |
| 138 | Francis Xavier Engineering College, Tirunelveli, Tamil Nadu | Tamil<br>nadu     | C<br>SUBAR<br>AJ                             | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Sustainable Design<br>and Development of<br>Extraction with<br>Palmyra Palm Pulp<br>System   | 7.0000  | 5.9500  | 1.0500 | 4.1650  | 1.7850 |
| 137 | Dr. Ambedkar<br>Institute of<br>Technology                  | Karnata<br>ka     | Samarth<br>Magod                             | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Solar Powered<br>Thermoelectric<br>Refrigerator  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 136 | Dr. Ambedkar<br>Institute of<br>Technology                  | Karnata<br>ka     | Haripriy<br>a<br>Sumana<br>Gosakan           | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Rapid and<br>economical<br>manufacturing<br>process for carbon<br>fiber prosthetic foot<br>for amputees  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 135 | Visva-Bharati<br>University                                 | West<br>bengal    | Piyali<br>Dey                                | Studen<br>t                             | Development of<br>nano-sulphur for<br>controlling yellow<br>mite in different<br>crops   | 15.0000 | 15.0000 | 0.0000 | 10.5000 | 4.5000 |
| 134 | VELAMMAL<br>COLLEGE OF<br>ENGINEERING<br>AND<br>TECHNOLOGY  | Tamil<br>nadu     | Rajeswar<br>i P                              | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Artificial Intelligence<br>Enabled Assist for<br>Visually Impaired<br>Movements  | 7.6500  | 6.5030  | 1.1470 | 4.5520  | 1.9509 |

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| 143 | KONERU<br>LAKSHMAIAH<br>EDUCATION<br>FOUNDATION                        | Andhra<br>pradesh | Prakash<br>Kodali                             | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Smart Electronic<br>Handheld Device for<br>Non-Invasive Drug<br>Delivery   | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
|-----|--|-------------------|---|---|--|---------|---------|--------|---------|--------|
| 144 | Sona College of<br>Technology  | Tamil<br>nadu     | Adesh<br>Vijayara<br>ghavan                   | Studen t                                | Fabrication of IOT Based Hydrophobic Coating Kit using Acid Erosion Method- to manipulate IoT based system for acid etching and to promote superhydrophobic surface with greater surface finish for the material | 15.0000 | 15.0000 | 0.0000 | 10.5000 | 3.5000 |
| 145 | VELAMMAL<br>COLLEGE OF<br>ENGINEERING<br>AND<br>TECHNOLOGY             | Tamil<br>nadu     | ААТНІ Ј                                       | Studen<br>t                             | EGG CLEAVER -an<br>automated machine<br>that helps in breaking<br>the eggs and<br>separating the yolk<br>and albumen   | 14.0000 | 14.0000 | 0.0000 | 9.8000  | 3.5700 |
| 146 | VELAMMAL<br>COLLEGE OF<br>ENGINEERING<br>AND<br>TECHNOLOGY             | Tamil<br>nadu     | Babu<br>Karuppia<br>h                         | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Lifesaving IoT based<br>hazardous gas<br>monitoring and<br>drainage block<br>detection system to<br>prevent manual<br>scavenging.  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 147 | VELAMMAL<br>COLLEGE OF<br>ENGINEERING<br>AND<br>TECHNOLOGY             | Tamil<br>nadu     | Kamatch<br>i<br>Thiruppa<br>thi               | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | SMART CPR<br>(Cardiac<br>Resuscitation<br>Device)  | 14.9500 | 12.7080 | 2.2430 | 8.8960  | 3.8120 |
| 148 | BANASTHALI<br>VIDYAPITH  | Rajasth<br>an     | MINUS<br>HRI<br>MADHU<br>MITA                 | Entrep<br>reneurs<br>/MSM<br>E          | Dhivara Mitra -<br>Integrated, Floatable<br>Solar solution for<br>Fish and Prawn<br>Farming  | 18.0000 | 12.7500 | 5.2500 | 8.9250  | 3.8250 |
| 149 | BANASTHALI<br>VIDYAPITH  | Rajasth<br>an     | Saumya<br>Rawat                               | Entrep<br>reneurs<br>/MSM<br>E          | Rapid soil testing<br>and fertilizer<br>recommendation<br>powered by AI  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 150 | Engineering Staff<br>College of India                                  | Telanga<br>na     | Banavath<br>u<br>venkata<br>krishna<br>prasad | Entrep<br>reneurs<br>/MSM<br>E          | VR Assisted Tele-<br>Operated Robotic<br>Ultrasound System   | 9.7000  | 8.2450  | 1.4550 | 5.7720  | 2.4735 |
| 151 | Entrepreneurship<br>Development<br>Institute of India                  | Gujarat           | Prajapati<br>Kush<br>Kirtikum<br>ar           | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | RedicineMedsol<br>Smart Pill Box (IoT<br>based pills storage)  | 21.2000 | 12.7500 | 8.4500 | 8.9250  | 3.8250 |
| 152 | Gokaraju<br>Rangaraju<br>Institute of<br>Engineering and<br>Technology | Telanga<br>na     | CH<br>subba<br>lakshmi                        | Entrep<br>reneurs<br>/MSM<br>E          | Design and Development of Smart and Sustainable Onboard charger for Electric Vehicle   | 18.0000 | 12.7500 | 5.2500 | 8.9250  | 3.8250 |

ही, श्रामकृष्णन / V. AKMAKRISHNAN उप निरोधका / Dy. Burener शास्त्र जाय प्रश्ने प्रत्या कार्याव स्टूबर, अया पूर्व प्रदाय कार्याव कार्याव Ministry of Mono, Sandi & Madure Essurptions Monte sanda (श्रू ज पृथ प्रत्या) का का

| 153 | Gokaraju<br>Rangaraju<br>Institute of<br>Engineering and<br>Technology | Telanga<br>na     | Dogga<br>Raveend<br>hra             | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Capacitor Clamped<br>Boost Inverter for<br>on-grid Solar PV<br>Applications  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
|-----|--|-------------------|-------------------------------------|---|--|---------|---------|--------|---------|--------|
| 154 | Gokaraju<br>Rangaraju<br>Institute of<br>Engineering and<br>Technology | Telanga<br>na     | G<br>Ramesh                         | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | AI based Action and<br>Gesture Recognition<br>Framework for<br>Children Diagnosed<br>with Cerebral Palsy<br>in children  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8200 |
| 155 | Gokaraju<br>Rangaraju<br>Institute of<br>Engineering and<br>Technology | Telanga<br>na     | Sakhineti<br>Mounika                | Entrep<br>reneurs<br>/MSM<br>E          | Smart Wheel chair with Robotic ARM   | 14.1000 | 11.9850 | 2.1150 | 8.3900  | 3.5150 |
| 156 | Gokaraju<br>Rangaraju<br>Institute of<br>Engineering and<br>Technology | Telanga<br>na     | TATA JOGI VENKA TA VISWA NATH       | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Consumer Appliance - A smart automatic breakfast (idli) maker  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 157 | I.T.S Engineering<br>College, Greater<br>Noida                         | Uttar<br>pradesh  | Jeevesh<br>Gupta                    | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Continuously Variable Generator with Electro- Mechanical Synchronization (CV Gen with EM Sync) - Feedback based - optimization of fuel consumption according to the load conditions without hampering other parameters of electricity.                       | 10.5000 | 8.9250  | 1.5750 | 6.2480  | 2.6775 |
| 158 | Indian Institute of<br>Information<br>Technology<br>Kottayam           | Kerala            | P D<br>VARGH<br>ESE                 | Entrep<br>reneurs<br>/MSM<br>E          | Integrated Medical<br>Alert<br>Communication<br>System   | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 159 | Indian Institute of<br>Information<br>Technology<br>Kottayam           | Kerala            | P Victer<br>Paul                    | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | AutoHire - An AI-<br>Based Automated<br>Technical Interview<br>Solution - Create a<br>web-based solution<br>to conduct virtual<br>technical interviews<br>with the candidates,<br>To evaluate the<br>interview using AI<br>without any human<br>intervention | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 160 | SAGI RAMA<br>KRISHNAM<br>RAJU<br>ENGINEERING<br>COLLEGE                | Andhra<br>pradesh | Penmets<br>a<br>Lakshmi<br>Pranathi | Studen<br>t                             | Smart Vision- Smart<br>Glass device<br>Designed for the<br>blind and low vision  | 15.0000 | 15.0000 | 0.0000 | 10.5000 | 4.5000 |

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सुद्धा. बादु एवं गयान प्रथम मंत्रावास Ministry of Micro, Small & Medium Enterprises रिकास वायुवा (सु. स, एवं म. स्टाम) का कार्यवास Office of the Day. Comms. (MSME)

| 161 | SAGI RAMA<br>KRISHNAM<br>RAJU<br>ENGINEERING<br>COLLEGE     | Andhra<br>pradesh | Vendra<br>Sri<br>Venkata<br>Veerann<br>a<br>Neelesh | Studen<br>t                             | Underwater drone<br>for welding -perform<br>underwater<br>inspection and repair<br>of pipelines,<br>underwater structures<br>and vessels                         | 3.5000  | 3.5000  | 0.0000 | 2.4500  | 1.0500 |
|-----|---|-------------------|---|---|--|---------|---------|--------|---------|--------|
| 162 | University<br>College of<br>Technology                      | Telanga<br>na     | Thati<br>Jyothi                                     | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Waste water<br>treatment electricity<br>production using<br>Microbial fuel cell -<br>to treat industrial<br>waste /organic waste<br>and generate<br>electricity. | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 163 | Meerut Institute<br>of Engineering<br>and Technology        | Uttar<br>pradesh  | Shalini<br>Rana                                     | Studen<br>t                             | Biodegradable<br>Diapers with Safe<br>Wetness Indicator  | 18.5000 | 15.0000 | 3.5000 | 10.5000 | 4.5000 |
| 164 | SAGI RAMA<br>KRISHNAM<br>RAJU<br>ENGINEERING<br>COLLEGE     | Andhra<br>pradesh | BHAMA<br>IDIPATI<br>V N S S<br>S R<br>MAHEE<br>DHAR | Studen<br>t                             | Drones In Disaster<br>Management   | 8.0000  | 8.0000  | 0.0000 | 5.6000  | 1.8250 |
| 165 | IIS Deemed to be<br>University                              | Rajasth<br>an     | Mahesh<br>Chand<br>Sharma                           | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Design and<br>Development of<br>Smart Self-Cleaning<br>Solar Panel System  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 166 | KALASALINGA<br>M ACADEMY<br>OF RESEARCH<br>AND<br>EDUCATION | Tamil<br>nadu     | B.Perum<br>al                                       | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | MatsyaRakshak<br>Multilingual IoT<br>based Assist Device<br>for Pisciculture<br>farmers  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 167 | KALASALINGA<br>M ACADEMY<br>OF RESEARCH<br>AND<br>EDUCATION | Tamil<br>nadu     | Muruges<br>wari<br>Anantha<br>kumar                 | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Smart IoT Based<br>Mushroom<br>Cultivation and<br>Edibility Prediction   | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 168 | KALASALINGA<br>M ACADEMY<br>OF RESEARCH<br>AND<br>EDUCATION | Tamil<br>nadu     | Theivasa<br>nthi<br>Sankar                          | Entrep<br>reneurs<br>/MSM<br>E          | Lithium Sulphur Battery by Solid State Synthesis method to improve its life and performance  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 169 | KSRM<br>COLLEGE OF<br>ENGINEERING                           | Andhra<br>pradesh | Gajjala<br>Navya<br>Tejasree                        | Studen<br>t                             | Image text to<br>multilingual<br>languages using<br>smart glasses  | 8.0000  | 8.0000  | 0.0000 | 5.6000  | 2.4000 |
| 170 | KSRM<br>COLLEGE OF<br>ENGINEERING                           | Andhra<br>pradesh | Lakkired<br>dy<br>Saiprana<br>varshitha             | Studen<br>t                             | Self Powered GPS Tracker -self powered intelligent GPS tracking system is proposed and designed for the purpose of vehicle tracking and road surface monitoring  | 6.0000  | 6.0000  | 0.0000 | 4.2000  | 1.8000 |

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सुद्धा, संदु एवं गव्यम प्रधाम गंजावार्थ Ministry of Micro, Small & Medium Enterprises किया आधुन्य (सू. च. वर्ष ग. उदार) का कार्याय Office of the Dev. Cummr. (MSME)

| 171 | Sharda University                               | Uttar<br>pradesh | sudhansh<br>u sharma              | Studen<br>t                             | Smart Battery Management System for large Battery / EVs with Controller Area Network(CAN), Individual Cell Monitoring and Active Balancing  | 15.0000 | 15.0000 | 0.0000 | 10.5000 | 4.5000 |
|-----|---|------------------|-----------------------------------|---|---|---------|---------|--------|---------|--------|
| 172 | Sharda University                               | Uttar<br>pradesh | Suman<br>lata<br>sharma           | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Low cost recycled<br>biodegradable<br>sanitary pads   | 5.0000  | 4.2500  | 0.7490 | 2.9750  | 0.4000 |
| 173 | Christ University<br>Kengeri                    | Karnata<br>ka    | S K<br>Aruna                      | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Biodegradable<br>Hydrogel gauze from<br>Nano Sericin and<br>Gelatin   | 21.0000 | 12.7500 | 8.2500 | 8.9250  | 3.8250 |
| 174 | P.S.R<br>ENGINEERING<br>COLLEGE,<br>SIVAKASI    | Tamil<br>nadu    | S<br>KABILA<br>N                  | Entrep<br>reneurs<br>/MSM<br>E          | Engineering Pichia<br>pastoris for the<br>production of<br>recombinant<br>Enterokinase  | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 175 | Sharda University                               | Uttar<br>pradesh | AMIT<br>MALIK                     | Entrep<br>reneurs<br>/MSM<br>E          | Automatic Slide Stainer for medical diagnostic laboratories which will automate the current process of manual slide staining                | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 1.0000 |
| 176 | Sharda University                               | Uttar<br>pradesh | ANURA<br>G<br>SHARM<br>A          | Entrep<br>reneurs<br>/MSM<br>E          | Rare Earth Magnet<br>free traction motor<br>for Electric Vehicles   | 15.0000 | 12.7500 | 2.2500 | 8.9250  | 3.8250 |
| 177 | Yeshwantrao<br>Chavan College<br>of Engineering | Mahara<br>shtra  | Vaishali<br>Arun<br>Mutyalw<br>ar | Entrep<br>reneurs<br>/MSM<br>E          | Ceiling Fan Cleaning<br>Device  | 9.4100  | 7.9980  | 1.4120 | 5.5990  | 2.3994 |
| 178 | Indian Institute of<br>Science                  | Karnata<br>ka    | SAKTHI<br>KUMAR                   | Entrep<br>reneurs<br>/MSM<br>E          | On-Orbit Refueling for Satellites   | 11.4000 | 9.6900  | 1.7100 | 6.7830  | 2.9070 |
| 179 | Indian Institute of<br>Technology<br>Jodhpur    | Rajasth<br>an    | Thilak<br>Chakara<br>varthi. E    | Studen<br>t                             | Developing Endoscope Socket to provide uninterpreted endoscopic visual field to ENT doctor for diagnosing patients with minimal discomfort. | 20.0000 | 15.0000 | 5.0000 | 10.5000 | 4.5000 |
| 180 | Indian Institute of<br>Science                  | Karnata<br>ka    | Nitin<br>Krishnan                 | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Colwho - Electric<br>powered modern<br>sugarcane juice cart   | 9.6550  | 8.2070  | 1.4480 | 5.7450  | 2.4621 |

की, समस्कान/V. RAMAKRISHIAN उस मिनामक/Dy. Greeter भारत सम्बद्ध/Govi allindae प्रदेश, वार्त पूर्व कारण जन्मण मिनास्थ्य Ministry of Morto, Small & Modium Enterprises (more allight (g. स. हुई स. बच्च) का कार्यास्य (Ministry de Day, Comm. (MEME)

|     |                                  |               | Total                                |   |  | 2413.99 | 2052.66 | 361.33 | 1436.874 | 602.1905 |
|-----|----------------------------------|---------------|--------------------------------------|---|--|---------|---------|--------|----------|----------|
| 182 | S J C Institute of<br>Technology | Karnata<br>ka | Levy                                 | Start<br>Up<br>/Emplo<br>yed/Ot<br>hers | Design and Development of Novel System for the Early Detection of Human Heart Failure and Precautionary Measures for Life Saving   | 15.0000 | 12.7500 | 2.2500 | 8.9250   | 3.8250   |
| 181 | Indian Institute of<br>Science   | Karnata<br>ka | Vummad<br>isetty<br>Praveen<br>Naidu | Entrep<br>reneurs<br>/MSM<br>E          | Development of a low cost small satellites (NPHSAT SYSTEMS PVT LTD) -designing, research and development of new Printed Antennas used for Small Satellites such as CanSat, CubeSat etc, and also for portable advanced wireless communication applications | 15.0000 | 12.7500 | 2.2500 | 8.9250   | 3.8250   |

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# **Guidelines for Establishment of Research Centres**



# Jawaharlal Nehru Technological University Hyderabad Directorate of Research & Development

Kukatpally, Hyderabad - 500085, Telangana State, INDIA 2017

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#### 1. INTRODUCTION

Jawaharlal Nehru Technological University Hyderabad (JNTUH) is focusing on research programmes on need-based technologies and solutions for societal problems. Accordingly, an independent Directorate of Research and Development (DRD) was established in the year 2005 to promote and monitor the research programmes of the University. The DRD administers Ph.D./M.Phil./M.S.(by Research) programmes in part-time and full time modes and monitors the research progress of the scholars.

The DRD coordinates with the Directorate of Admissions for selection and admission of research scholars, interfaces with Directorate of Evaluation for conduct of Pre-Ph.D. examinations and issue of provisional and original degree certificates, interacts with the constituent units of the University for academic activities of research degrees and also with Directorate of University Foreign Relations for the students of foreign nationals.

DRD conducts Research Review Meetings once in every six months to evaluate and monitor the progress of the scholars and conducts viva-voce examinations for the award of the Ph.D./M.Phil./M.S.(by Research) degrees in the faculties of Engineering, Science & Technology, Pharmacy, Management and Humanities & Social Sciences.

# 2. Policy of Research Centre

The University encourages the establishment of Research Centre at various levels of the organization that will enhance and facilitate disciplinary and interdisciplinary research collaboration, knowledge transfer and training. Faculty may be involved in one or more of the projects in a Research Centre and be active in more than one research project. The University is committed to develop and maintain high-quality programs of research and encourages to have inter or multi-disciplinary faculty in carrying out research on societal needs. Presently, Directorate of Research and Development offers M.Phil., M.S. (by Research) and Ph.D. programmes in the following disciplines and the list of subjects may vary from year to year.

| SI. No. | Faculty              | Subject                                 |
|---------|----------------------|---|
| 01      | Engineering          | Aeronautical Engineering                |
|         |                      | Chemical Engineering                    |
|         |                      | Civil Engineering                       |
|         |                      | Computer Science & Engineering          |
|         |                      | Electrical & Electronics Engineering    |
|         |                      | Electronics & Communication Engineering |
|         |                      | Energy Systems                          |
|         |                      | Industrial Engineering                  |
|         |                      | Mechanical Engineering                  |
|         |                      | Metallurgical Engineering               |
|         |                      | Transportation Engineering              |
| 02      | Science & Technology | Bio-technology                          |
|         |                      | Chemistry                               |
|         |                      | Environmental Science & Technology      |
|         |                      | Earth & Atmospheric Sciences            |
|         |                      | Food Technology                         |
|         |                      | Mathematics                             |
|         |                      | Nano Science & Technology               |
|         |                      | Pharmaceutical Sciences                 |
|         |                      | Physics                                 |
|         |                      |   |

|    |                              | Spatial Information Technology |
|----|------------------------------|--------------------------------|
|    |                              | Water Resources                |
| 03 | Management                   | Management Sciences            |
| 04 | Humanities & Social Sciences | English                        |
|    |                              | Physical Education             |

## 3. UNIVERSITY RESEARCH ADVISORY COMMITTEE

University has constituted University Research Advisory Committee (URAC) with the following objectives:

- To identify thrust areas, funding agencies, guiding and advising the University to go forward in research front.
- To guide the Departments to do research in thrust areas as identified by national and international research organisations.
- To identify gap areas in industry and to create the awareness for the sponsored and industrial research.
- To work as a bridge between University and Industry with special reference to attract the projects so as to generate internal revenue and to convert technical knowhow into operational mode with industry interface.
- To work on any other research related activities as directed by the University.
- To monitor and evaluate the progress of various Research Centres under the administrative control of the University.
- Any difference/discrepancy/issue may be placed before URAC for its recommendation to forward to the University for necessary approvals.

## 4. Definition and Purpose of Research Centre (RC)

Colleges / Institutions / Organisations may establish a centre for the purpose of undertaking research. This Centre conducts research programs, provide facilities and assistance for research and scholarly work, provide funds and advice the research students to provide a supportive infrastructure for interdisciplinary research. A Research Centre must be complementary to the academic goals of the University, but does not have jurisdiction over courses or curricula and cannot offer formal courses. Research Centre must include faculty members working in a critical realm from one or more Departments. Research Centres are established with internal start-up funding and should generally become self-sustaining within three to five years.

A Research Centre shall have a group of staff in an established area of academic strength having a broader focus, recognized nationally and internationally. The Centre will bring together a critical mass of scholars, from different Departments for collaborative work in a clearly defined area over an extended period of time beyond the life of one specific project.

The functions of Research Centre are **a**) to facilitate research and research collaborations, **b**) to disseminate research results through conferences, meetings and other activities, **c**) to strengthen the research activities by providing students with training opportunities and access to facilities and **d**) to seek extramural research funds.

- The Centre will provide an institutional platform from which to successfully apply for grant support for projects, develop postgraduate research opportunities and establish groups of postdoctoral activity.
- A Research Centre may also be involved in other appropriate activities, such

as working with professionals and commercial or governmental organisations to improve professional practice and publishing reports, proceedings or monographs. In all publications / patents, if any, as the outcome of the Research should include the "JNTUH Research Centre" followed by College / Institute / Organisation as affiliation.

- Research Center facilitates the academic and research functions of college /
  institute. The overall goal of the Research Centre is to provide a platform for
  Research and Strategic partnerships, an opportunity to evaluate the
  performance of research activities and return on investment.
- The Research Center is accomplished through a recurring schedule of data gathering, analysis, goal setting, and reporting.

## 5. Objectives of Research Centre

Research Centre is expected to develop their own objectives and measurable goals to meet the purposes stated in this policy.

Some of the objectives of Research Centre are:

- To promote and facilitate collaborative and/or interdisciplinary research and enhancement of research networking capacity and infrastructure under the umbrella of Jawaharlal Nehru Technological University Hyderabad in Telangana State.
- To increase and effectively manage the resources and research support for its stakeholders.
- To provide education and training in research and related skills, especially for Post Graduate and undergraduate students and thereby enhance the academic quality.

- To contribute to the University's strategic educational and research missions and to support synergies between research, teaching and learning and consultancy services.
- To enhance the reputation of faculty members, the constituent academic units, and the University through the quality of research.

## **6.** Categories of Research Centres:

- I. Research Centres in JNTUH affiliated engineering colleges/Institutions.
- II. Research Centres in Public Sector.
- III. Research Centres in Private Sector.

### 7. Research Centre Establishment

A proposal to establish a Research Centre shall be submitted in writing to the University in a prescribed form given in Annexure. After careful scrutiny of the application, University standing Committee for recognition of Research Centres will visit the College / Institution / Organization and verify the facilities. Based on the recommendations from this committee, appropriate decision will be taken by the University.

**Registration and Processing fee:** Registration and processing fee of Rs. 50,000/for each branch is to be paid along with application in the form of DD in favor of
Registrar, JNTUH. If the proposed R&D Centre is not approved, 75% of this fee will
be refunded.

# 8. Approval, Governance of Research Centre

 Research Centre is constituted formally as part of the University's organization and is subject to its direction, oversight, and strategic plans.

- Research Centre and their constituent academic units are expected to establish mechanisms to assure there is ongoing communication for purposes of coordinating resources, training, research activities, and strategic planning
- A Research Centre will normally be led by a faculty member of the college / Institute / Research Organisation.
- Funding for Research Centre can be made up of a combination of multiple internal and external sources.
- Vision and mission of the center and how does it connect to the overall growth of the college shall be defined.

## 9. Rules and Regulations

- It is mandatory that the College / Institute should have <u>UGC Autonomous</u>
   status or <u>NAAC</u> with A grade and <u>NBA</u> in the concerned branch. Duration of
   the existence of the college should be one year more than the autonomous
   status requirement including the Department concerned.
- The affiliated College / Institution / Organization should apply for Research Centre in the prescribed Proforma. After careful scrutiny of the application, University Committee, for recognition of research centres will visit the College / Institution / Organization and verify the facilities in the proposed Departments / unit. Based on the recommendation of the Committee, approval for Research Centre may be granted to the College / Institution / Organization as per the University norms.
- The Research Centre will be granted to the affiliated Engineering Colleges /
  Institution / Organization which comprises different departments/units for
  research activities such as guiding scholars leading to Ph.D. degree and

- sponsored projects. Training programmes will be part of the Research Centre activity.
- The Departments of College / Institute which are proposed to be part of Research Centre should have at least one M.Tech. programme running in the department.
- The Colleges / Institution / Organisation should maintain a corpus fund of Rs.
   25,00,000/- (Rupees Twenty-Five Lakhs Only) towards research activities and is to be maintained at all times.
- Dedicated Internet Bandwidth of 50 Mbps should be available.
- Access to e-journals of reputed publications should be available. (Past 3 years proof is mandatory).
- Infrastructural facilities such as office space and furniture should be provided to the research scholars.
- For Ph.D. guidance at least two eligible Supervisors should be available in the
  respective department/unit. A person is eligible to be a supervisor if he/she
  possess Ph.D. in the respective stream / related discipline. All the admissions
  of Research Scholars in the recognized Research Centres will be done by the
  University Only.
- The Supervisor (proposed) should have five years of prior service out of which minimum three years (as ratified faculty in any college) in the same college / Institution / Organisation.
- After the research scholar is allotted, the supervisor should continue in the same College / Institution / Organisation at least for three years after assigning the research scholar.
- In case of exigency, if the supervisor leaves the college/institute/organisation,
   it is the responsibility of the concerned host college / Institute / Organisation to

- replace him with an equally qualified member with due intimation to the University before the said member is relieved.
- Preference will be given to those Institutions having NAAC / NBA accreditation / Sponsored research projects from UGC / DST / AICTE / and other Government Agencies / Corporate Sector (or) Public Sector undertakings. In-house R & D Centers recognized by Department of Scientific and Industrial Research (DSIR) will also be given due preference.
- The Centre shall have a small core of dedicated supporting staff in its own right, and a full-time Coordinator.
- The Coordinator of the Centre shall report to the Head of College / Institution
   / Organization.
- The Centre shall excel internationally in research activity in terms of originality, significance, rigour and impact.
- The Centre will provide a means for collaboration with external partners with community and private sector researchers.
- The Centre will sponsor and organise lectures, conferences, colloquia and workshops.
- The Centre will attract academic visitors, those on research leave from elsewhere and other scholars, researchers and academic visitors.
- The Centre will be able to attract research grants that are significant with respect to national norms for the thematic focus of the Centre.
- The tenure of the Research Centre shall be for four years. However, the progress of Research Centre will be reviewed every year by University which may recommend for extension / withdrawal of approval.

- The College / Institute / Organization should maintain proper documentation for the R & D programs taken up and progress report should be sent to the University every six months including financial status and the corpus fund.
- If the Research Centre does not maintain the standards and procedures as per norms, the University has the right to withdraw the status of Research Centre. The University should have the right to review all the activities of Research Centre. Where there is any evidence of decline in standards of quality, the University may, after careful scrutiny, and in consultation with UGC, either help modify them, wherever possible, or cancel the recognition of Research Centre and also autonomous status of the college.
- Any Amendment/Changes/status of Research Centre shall be done with the prior approval of the University.
- The College / Institute / Organization should provide the following.
  - a) Offer fellowship for full-time research scholars admitted through University as per University norms prescribed from time to time.
  - b) Should provide expenditure for contingencies / financial support for attending Conferences / workshops, National/International to everyfulltime research scholars as per University norms.
  - c) Extend the services of all eligible supervisors to various activities related to R & D of the University.
  - d) Provide support for course work for research scholars.
  - e) Faculty Development Programme (FDP), e-learning.
- Activities of Research Centre:
  - a. Training and certification programmes.
  - b. Sponsored Research and consultancy projects

- c. Organisation of seminars / workshops / conferences at national / international level
- d. Research Scholars Full Time.
- e. Active Research programmes
- f. Any other programmes related to Research.

#### 10. Appointment of Coordinator

The Coordinator of Research Centre, who must be a tenured faculty member, is appointed by the college competent authority after consultation with the BOG of the college. The coordinator is responsible for the administrative functions of the Research Centre and for guidance of the unit's activities in accordance with its established goals. It is expected that the coordinator will be appointed for a 4-year term. A brief succession plan should be in place in the event that the coordinator retires or leaves the position / organisation.

#### 11. Advisory Committee of Research Centre

Research Centre may constitute an Advisory Committee at college level. Representatives should be recognized experts in the research field of the department and may come from both inside and outside the Institute/College. The Advisory Committee, may help in setting the goals and in critically evaluating its effectiveness on a continuing basis. An annual report shall be submitted to the University for its Subsequent Review by the University expert committee constituted for the purpose. The annual report of Research Centre should include the following:

 The Center Mission, goals, or focus of research activity that have occurred over the previous year.

- List of all researchers and staff involved in the Center over the past year, including a summary of how each person contributed to the Center's goals.
   Each researcher should describe contributions to the body of scholarship supported by the Center and benefits derived from the Center.
- Publications and professional conference presentations that are a part of the Center's programs for the previous year (please do not include articles or presentations prior to the past year).
- A listing of new research funding received, including source, amount, and title
  of project for the past year only.
- Total amount of current internal and external funding
- A listing of up to 10 highlights that reflect the accomplishments of the Center over the previous year that should be promoted by the University.

#### 12. Annual Review of Research Centre

The performance of Research Centre will be reviewed every year by the University expert committee. Basing on report of the University expert committee the extension of recognition or withdrawal will be decided.

#### 13. Credentials to the College / Institution:

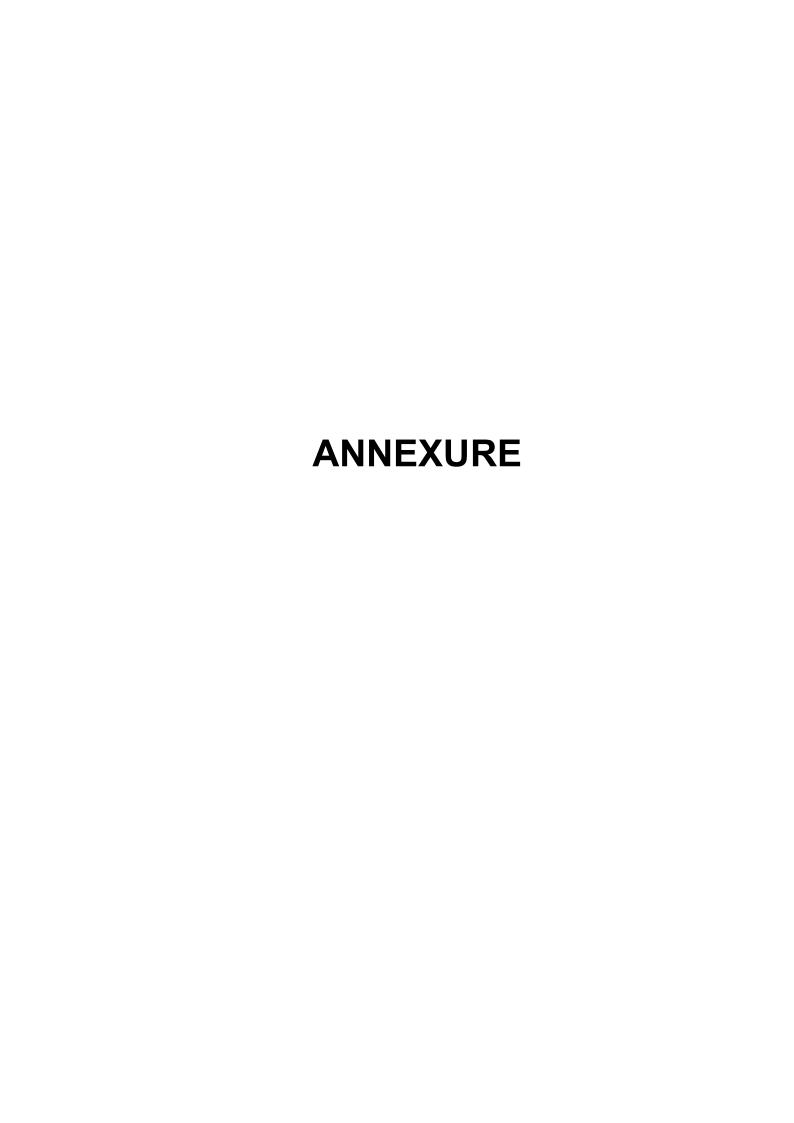
The following credentials will be given to Research Centre of the Institute / College / Organization:

- The University will recognize the R&D Centre in the respective college / institution / Organization.
- The eligible supervisors of the Research Centre will be recognized by the
   University and they will be given preference in various activities related to

Research and Development including allotment of candidates as Full-Time research scholars of the college.

 Collaborative projects with University and other National and International institutions will be encouraged.

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# JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD DIRECTORATE OF RESEARCH & DEVELOPMENT, KUKATPALLY, HYDERABAD – 500 085 Application for Recognition of College/Institution/Organization as an Approved Research Center under JNTUH

| 2. | Name and Address of the Institute (with Tel./Fax/e-mail) Year of Establishment UGC Autonomous Status (Copy to be enclosed) Name and Address of the Principal/ Director (with Tel./Fax/Mob/e-mail) | :   |
|----|---|---|
| 5. | Name of the Dept./Branch in which Ph. D. Programme is to be offered   | <ul><li>1)</li></ul>                                    |
| 6. | <ul> <li>b) No. of Professors with Ph.D. in the D</li> <li>c) Enclose list as per format # 1 for each</li> <li>d) Has the Department been Accredited ∑ If yes Period of Accreditation</li> </ul>  | ept:  |
|    | ∑ Present Status (please tick)  | :ACCREDITED / APPLIED FOR ACCREDITATION/ NOT ACCREDITED |
| 7. | Assurance from the Institute/Organizatio regarding Availability of allotted Supervis for the Research Programme Period continuously, till the expiry of Tenure (Maximum 6 years)                  |   |
| 8. | a) No. of Journal Publications of Dept/Branch Faculty in last 5 Years   | ii) National Jls. :                                     |
| 9. | b) Enclose Details as per format #2  Academic/ Infrastructural Facilities available at the Inst./Organization i) Library  | : YES / NO  |
|    | <ul><li>a) No. of International Journals<br/>Subscribed for the Dept./Branch</li><li>b) Enclose List as per format #3</li><li>c) No. of National Journals</li></ul>                               | : YES / NO .  |
|    | Subscribed for the Dept./Branch d) Enclose List as per format #3 e) Digital Library Facilities IF YES, enclose details f) Library Access Timings  | YES / NO EXISTING / NOT AVAILABLE YES / NO              |

ii) a) Laboratory /Equipment Facilities: [ Applicable for Research Work YES / NO In the Dept./Branch available (costing > Rs.1 Lakh) ] b) Assurance on the Availability of YES /NO the Research Lab./Equipment to the Scholar as needed iii) Computational/Reprographic YES/NO Facilities (One PC shall be made available to each Scholar) iv) Assured Accommodation for YES / NO the Scholar within the Dept. 10. Networking/ Internet Facilities AVAILABLE / NOT AVAILABLE a) Service Provider and Bandwidth ..... 11. Whether the Institute/ Organization is YES / NO willing to offer to the Scholar as per JNTUH norms 10. Whether the Institute/Organization is YES / NO Willing to provide the expenditure for Contingencies/ Conferences/ Field Works/ Stationery etc. 11. Whether the Institute/Organization is YES / NO willing to share revenue outcomes - if any, and share IPR with JNTUH 12. a) No. of – i) R & D Projects carried out: ..... by the Dept., -ii) Research or any other Grants Sanctioned to the Dept./ b) Enclose Details as per format #4 YES / NO 13. a) Any other Information regarding YES / NO Recognition of the Inst./Org. by any Professional bodies or Academies or Councils or Organizations, or MoU With Industries/R&D Labs. etc. b) If YES, enclose proofs listing the YES / NO Recognition Status and Period of Approvals. 14. A Brief write up(500 words) by the institute mentioning the STRENGTHS and WEAKNESSES(SWOT analysis)that why the institute should be considered for

R&D center.

#### <u>UNDERTAKING</u>

We hereby certify that all the details and other information provided above are true and correct. We agree to have Joint Intellectual Property Rights on the Research Works and Contents of the Ph.D. with the University We agree to offer fellowship for Full-Time research scholars as per JNTUH norms prescribed from time to time. We agree to deposit and maintain an amount of 25 lakh rupees as corpus fund for R&D centre. We agree to provide support for course work of research scholars of Research Centre.

We also assure that under any circumstances, the activities of Research Centre will not be against the interest of the University.

- 1) Signature of the Principal/Director of the Institute (with Name, Designation, Seal and Address)
- 2) Signature of the Chairman/Secretary of the Trust/Organization (with Name, Designation, Seal and Address)

DATE:

PLACE:

**Note :** All the Formats mentioned below, may please be filled up as applicable, separately for each Department or Branch under consideration.

# format 1:

LIST OF FACULTY MEMBERS HOLDING PH.D. DEGREE IN THE DEPARTMENT(P.G Programme wise list)

|       | _, , ,, ,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,          |  |             |                                  |  |                                       |
|-------|--|--|-------------|----------------------------------|--|---------------------------------------|
| S.No. | Name of<br>the Faculty<br>with<br>Qualifications | Inst./Univ.<br>from which<br>Ph.D. is<br>obtained/<br>Year | Designation | Fields of<br>Speciali-<br>zation | Date of Joining<br>The present<br>Institute/Org. | Research<br>Experience<br>No.of Years |
|       |  |  |             |                                  |  |                                       |
|       |  |  |             |                                  |  |                                       |
|       |  |  |             |                                  |  |                                       |
|       |  |  |             |                                  |  |                                       |

#### # format 2:

#### LIST OF JOURNAL PUBLICATIONS FROM FACULTY within LAST 5 YEARS

| S.No. | Name of<br>the Faculty | Journal<br>Name | Year & Month of Publication | Vol. No.,<br>Issue<br>No., and | TITLE | Names of<br>Authors (as<br>published) |
|-------|------------------------|-----------------|-----------------------------|--------------------------------|-------|---------------------------------------|
| INTER | RNATIONAL J            | OURNALS:        |                             | pg.nos.                        |       |                                       |
| NATIO | DNAL JOURN             | ALS:            |                             |                                |       |                                       |

#### # format 3:

#### LIST OF JOURNALS SUBSCRIBED BY THE INSTITUTE/ORGN. LIBRARY

| S.No. | Name of<br>the Journal<br>Subscribed | Journal<br>Name | Availability<br>Of Journal<br>Period | Hard<br>Copy<br>Availability<br>(YES/NO) | Soft Copy (Details of<br>Service Provider & No. of<br>User Licenses taken with<br>License Validity periods) |
|-------|--------------------------------------|-----------------|--------------------------------------|--|---|
| INTER | RNATIONAL J                          | OURNALS:        |                                      |  |   |
|       |                                      |                 |                                      |  |   |
|       |                                      |                 |                                      |  |   |
|       |                                      |                 |                                      |  |   |
| NATIO | NAL JOURN                            | ALS:            |                                      |  |   |
|       |                                      |                 |                                      |  |   |

#### # format 4:

# LIST OF R&D PROJECTS CARRIED OUT BY THE DEPARTMENT, AND LIST OF RESEARCH/ ANY OTHER GRANTS SANCTIONED TO THE DEPT.

| S.No.  | Title of the R&D Project or Research Grant | Agency, and<br>Date of<br>Sanction | Names of the<br>Principal and<br>Co<br>Investigators | Sanctioned<br>Amount<br>Rs. In lakhs | Status of the Project (completed/ on-going) |
|--------|--|------------------------------------|--|--------------------------------------|---|
|        |  |                                    |  |                                      |   |
|        |  |                                    |  |                                      |   |
| 2) Res | search or Any                              | Other Grants                       |  |                                      |   |
|        |  |                                    |  |                                      |   |



# TKR COLLEGE OF ENGINEERING AND TECHNOLOGY (AUTONOMOUS)

(Sponsored by TKR Educational Society, Approved by AICTE, Affiliated by INTUH, Accredited by NBA & NAAC with 'A' Grade)



3.2.1 Grants received from Government and non-governmental agencies for research projects, endowments, Chairs in the institution during the last five years (INR in Lakhs) (2) & 3.2.2 Percentage of teachers having research projects during the last five years (2) 3.2.4 Average Percentage of departments having Research projects funded by government and non government agencies during the last five years (3)

| <b>Sl.no.</b> | Name of the Principal Investigator/ Co Investigator (if applicable) Dr. D.V. Ravi Shankar | Name of the<br>Funding agency<br>TEQIP-III | Type<br>(Government/Non-<br>Government)<br>Government,JNT<br>UH | Department of Principal Investigator/ Co Investigator Mechanical Engineering | Year of<br>Award<br>2019 | Funds<br>provided<br>(INR in<br>lakhs) | Duration of the project One Year |
|---------------|---|--|---|--|--------------------------|--|----------------------------------|
| 2             | Dr.A.Suresh Rao   | TEQIP-III                                  | Government,JNT<br>UH  | CSE  | 2019                     | 2.60                                   | One Year                         |
| 3             | Dr.B.Sunil Srinivas   | TEQIP-III                                  | Government,JNT<br>UH  | CSE  | 2019                     | 2.98                                   | One Year                         |
| 4             | Dr. D.V Ravi Shankar, Dr.<br>B. Rajinikanth, Dr. K. Raju                                  | TKRCET                                     | Non-Government  | Mechanical, H&S,<br>EEE  | 2020                     | 75                                     | Five years                       |
| 5             | Dr. K. Sukanya  | TKRCET                                     | Non-Government  | ECE  | 2020                     | 29.47                                  | Three Years                      |
| 6             | Dr. Muruganatham  | TKRCET                                     | Non-Government  | IT   | 2020                     | 8                                      | Three Years                      |
| 7             | Dr.Mekala Girish Kumar  | SERB                                       | Government,SER<br>B   | ECE  | 2021                     | 13.46                                  | Two Years  Principal             |

KR College of Engineering & Technology
(AUTONOMOUS)



# TKR COLLEGE OF ENGINEERING AND TECHNOLOGY (AUTONOMOUS)

(Sponsored by TKR Educational Society, Approved by AICTE, Affiliated by INTUH, Accredited by NBA & NAAC with 'A' Grade)



3.2.1 Grants received from Government and non-governmental agencies for research projects, endowments, Chairs in the institution during the last five years (INR in Lakhs) (2) & 3.2.2 Percentage of teachers having research projects during the last five years (2) 3.2.4 Average Percentage of departments having Research projects funded by government and non government agencies during the last five years (3)

| Sl.no. | Name of the Principal<br>Investigator/ Co Investigator<br>(if applicable) | Name of the<br>Funding agency |                     | Investigator | Year of<br>Award | Funds<br>provided<br>(INR in<br>lakhs) | Duration of the project |
|--------|---|-------------------------------|---------------------|--------------|------------------|--|-------------------------|
| 8      | Dr. Prem Sudha<br>Rangaswamy  | TKRCET                        | Non-Government      | CIVIL        | 2021             | 37.62                                  | Three Years             |
| 9      | Dr. Md Qutubuddin   | TKRCET                        | Non-Government      | EEE          | 2021             | 15                                     | Three Years             |
| 10     | Dr. A Suresh Rao, Dr. M.<br>Girish Kumar                                  | TKRCET                        | Non-Government      | CSE, ECE     | 2021             | 23.96                                  | Three Years             |
| 11     | Dr. DV RaviShankar/Dr. A<br>Suresh Rao                                    | MSME                          | Government,MS<br>ME | Mechanical   | 2022             | 12.75                                  | Three Years             |
| 12     | Dr. G Gopala Krishna  | MSME                          | Government,MS<br>ME | Mechanical   | 2022             | 8.00                                   | Three Years             |

Principa

TKR College of Engineering & Technology
(AUTONOMOUS)

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### PROCEEDING OF THE JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

(Established by Govt. Act No. 30 of 2008) Kukatpally, Hyderabad – 500 085, Telangana (India)

PRESENT Dr. N. YADAIAH REGISTRAR

Procs No.JNTUH/TEQIP-III/CRS/2019/MECH/08

Date:22/07/2019

Subject: Award of the project titled "Development of mobile Air Conditioner with Eco Friendly refigeriment 134a" under Collaborative Research Scheme, TEQIP-III, JNTUH.

Read: Note order of the Vice-Chancellor dated 22.07.2019

#### ORDERS:

The project titled "Development of mobile Air Conditioner with Eco Friendly refigeriment 134a" is awarded with sanctioned amount of Rs.3,00,000/- (Rupees Three Lakhs Only) under Collaborative Research Scheme, TEQIP-III, JNTUH to the following investigators.

Principal Investigator

Dr. Suresh Akella

Department Name

Mechanical Engineering

Institute Name

Sreyas Institute of Engineering & Technology

2. Co-Principal Investigator-1,

Dr.A.V.S.S.Kumara Swami Gupta

Department Name Institute Name

Mechanical Engineering

JNTUH College of Engineering Hyderabad

3. Co-Principal investigator-2

Dr.Ravi Shankar

Department Name

Mechanical Engineering

Institute Name

TKR College of Engineering & Technology

# With the following terms and conditions to the Investigators:

1. The institute where Principal Investigator is working becomes the lead Institute.

:

2. An Initial grant of Rs.1,00,000/- will be released to the account of the principal of lead institute.

3. In case if both PI and Co-PI-1 are from affiliating institutions, a joint account should be operated by PI, Co-

4. If Co-PI-1 is from the Constituent colleges of JNTUH (JNTUHCEH, JNTUHCEJ, JNTUHCEM, JNTUHCES), PI and Co-PI will operate a Joint account and fund will be transferred for lead institute

5. In case, PI or Co-PI leave the institute for any reason or withdraw from the project (proper justification should be communicated to the University), he/she shall be treated as withdrawn from the project.

6. PI's and Co-PI's should fill the Forms A to F and submit to TEQIP-III JNTUH whenever required.

7. PI's and Co-PI's should submit Form A within 3 days after receiving the sanction letter.

8. PI's and Co-PI's should be present at the time of first Progress evaluation after 4 months and all other subsequent Progress Evaluations (once in 4 months) conducted at TEQIP-III JNTUH.

The Second Installment of Rs.1,00,000 of Research grant will be released on satisfactory performance in first Progress Evaluation and submission of Form B and Form D duly filled and signed.

10. The 3<sup>rd</sup> and final installment will be released upon submission of Form C and D and satisfactory

4 | Page

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### PROCEEDING OF THE JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

(Established by Govt. Act No. 30 of 2008)

Kukatpally, Hyderabad – 500 085, Telangana (India) PRESENT Dr. N. YADAIAH REGISTRAR

Procs No.JNTUH/TEQIP-III/CRS/2019/CSE/11

Date: 22/07/2019

Subject: Award of the project titled "Minimalistic Approach to Predict Cardiovascular Diseases Using Various Risk Factors That Go Undiagnosed Till Advanced Stages." under Collaborative Research Scheme, TEQIP-III, JNTUH.

Read: Note order of the Vice-Chancellor dated 22.07.2019

#### ORDERS:

The project titled "Minimalistic Approach to Predict Cardiovascular Diseases Using Various Risk Factors That Go Undiagnosed Till Advanced Stages," is awarded with sanctioned amount of Rs.2,60,000/- (Rupees Two Lakh Sixty Thousand Only) under Collaborative Research Scheme, TEQIP-III,

 Principal Investigator Department Name Institute Name

Dr. A. Suresh Rao

Computer Science and Engineering TKR College of Engineering & Technology

2. Co-Principal Investigator-1 Department Name Institute Name

DR. B.Vishnu Vardhan

Computer Science and Engineering JNTUH College of Engineering Jagityal

With the following terms and conditions to the Investigators:

1. The institute where Principal Investigator is working becomes the lead Institute.

2. An Initial grant of Rs.1,00,000/- will be released to the account of the principal of lead institute.

3. In case if both PI and Co-PI-1 are from affiliating institutions, a joint account should be operated by PI, Co-

4. If Co-PI-1 is from the Constituent colleges of JNTUH (JNTUHCEH, JNTUHCEJ, JNTUHCEM, JNTUHCES), PI and Co-PI will operate a Joint account and fund will be transferred for lead institute

5. In case, PI or Co-PI leave the institute for any reason or withdraw from the project (proper justification should be communicated to the University), he/she shall be treated as withdrawn from the project.

6. PI's and Co-PI's should fill the Forms A to F and submit to TEQIP-III JNTUH whenever required.

7. PI's and Co-PI's should submit Form A within 3 days after receiving the sanction letter.

8. PI's and Co-PI's should be present at the time of first Progress evaluation after 4 months and all other subsequent Progress Evaluations (once in 4 months) conducted at TEQIP-III JNTUH.

9. The Second Installment of Rs.1,00,000 of Research grant will be released on satisfactory performance in first Progress Evaluation and submission of Form B and Form D duly filled and signed.

10. The 3<sup>rd</sup> and final installment will be released upon submission of Form C and D and satisfactory

TKR College of Engineering & Technology

(AUTONOMOUS)

11. The project should results in at least one publication in the relevant Journal national/international (Non

12. PI's and Co-PI's will be informed if there are any directions from NPIU or changes made by TEQIP-III JNTUH relevant to Collaborative Research Scheme time to time and are to be followed in due course till

13. All non-consumables procured for the research project will automatically become the property of the lead

14. Any deviation in the expenditure as defined in the project proposal is not accepted. In such case prior permission is necessary from the university. After obtaining necessary permission, funds should be utilized 15. Any interest incurred should be deposited back to the university JNTUH, TEQIP-III Account.

16. Unspent amount as per the proposal/ Guidelines of the TEQIP within the stipulated time should be deposited back to the university TEQIP account. (Along with Interest Incurred).

17. Any discrepancy with Co Investigator and principals while implementing the project to be brought to the 18. For any discrepancies and other relevant matters, decision of the University is final.

19. Upon the completion of the Project, PI should submit final report Form E, Final Financial Statement Form F, and utilization certificate Form G along with true copy of audit report of the Project. In case if principal

### With the following terms conditions to the Principals:

1. The institute where Principal Investigator is working becomes the lead Institute.

2. The grant from TEQIP-III will be transferred to Principals account of lead institution three installments.

4. Principal is responsible for transfer of funds to the project account within one week after the release of funds from university. In case if principal fails to do so; it will be recovered from institute. 5. Principals should permit to use existing facilities for project Implementation if requested.

6. In case if both PI and Co-PI-1 are from affiliated institute, a joint account is to be operated by PI, Co-PI-1

7. In case of collaborative research project carried under twinning, PI and Principal of lead institute will

8. In case either PI or Co-PI-1 withdraws from the project, Principals of the respective institution shall find the replacement and inform the same to the University for Approval.

9. A declaration form duly signed by Principal (Form H) abiding the rules listed above shall be submitted along with account details within 3 days after receiving the sanction letter for the transfer of research grant.

10. Any discrepancy with PI and Co- PI, while implementing the project, to be communicated with details, to

11. After the completion of every project, Principals of lead institute should ensure that all non consumables procured for projects become the property of institution and to be labeled TEQIP-III/ (Number). 12. Principal of the lead institute should submit the list of all non consumables procured for all Projects at the

end of collaborative research scheme through duly filled in Form I.

13. Principals will be informed if any directions from NPIU or changes in guidelines made by TEQIP-III JNTUH relevant to the Collaborative Research Scheme from time to time. Those guidelines should be followed in due course of time, till the completion of TEQIP-III Project

14. For any discrepancies and other relevant matters, decision of the University is final.

Under the circumstances as stated above, the Vice-Chancellor is pleased to accord permission to award the project under Collaborative Research Scheme TEQIP-III, JNTUH.

The expenditure shall be met from TEQIP-III funds.

The Concerned Investigators The Concerned Principals, Copy to VC/Rector/Registrar. Copy to Office of the TEQIP-III

TKR College of Engineering & Technology

(AUTONOMOUS)

Phone Off +91-40-23158665 Fax +91-40-23158665 Web www.mtub.ac.un E Maid palregistratignutub.ac.in





# PROCEEDING OF THE JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

(Established by Govt. Act No. 30 of 2008) Kukatpally, Hyderabad – 500 085, Telangana (India)

PRESENT Dr. N. YADAIAH REGISTRAR

Procs No.JNTUH/TEQIP-III/CRS/2019/CSE/13

Date: 22/07/2019

Subject: Award of the project titled "Automatic Diagnostic Model for Detection of Malaria Parasites from Microscopic Images" under Collaborative Research Scheme, TEQIP-III, JNTUH.

Read: Note order of the Vice-Chancellor dated 22.07.2019

...

#### ORDERS:

The project titled "Automatic Diagnostic Model for Detection of Malaria Parasites from Microscopic Images." is awarded with sanctioned amount of Rs.2,98,000/- (Rupees Two Lakh Ninty Eight Thousand Only) under Collaborative Research Scheme, TEQIP-III, JNTUH to the following investigators.

Principal Investigator
 Department Name
 Institute Name

Dr. G. Madhu InformationTechnology VNR Vignana Jyothi Institute of Engineering &Technology

Co-Principal Investigator-1
 Department Name
 Institute Name

Dr. A. Govardhan Computer Science and Engineering JNTUH College of Engineering Hyderabad

Co-Principal Investigator-2
 Department Name

 Institute Name

Dr. B. Sunil Srinivas Computer Science and Engineering TKR College of Engineering & Technology

### With the following terms and conditions to the Investigators:

1. The institute where Principal Investigator is working becomes the lead Institute.

2. An Initial grant of Rs.1,00,000/- will be released to the account of the principal of lead institute.

All initial grant of RS 1,00,000
 In case if both PI and Co-PI-1 are from affiliating institutions, a joint account should be operated by PI, Co-PI-1 and Principal of lead institute.

 If Co-Pl-1 is from the Constituent colleges of JNTUH (JNTUHCEH, JNTUHCEJ, JNTUHCEM, JNTUHCES), PI and Co-PI will operate a Joint account and fund will be transferred for lead institute Principal account.

 In case, PI or Co-PI leave the institute for any reason or withdraw from the project (proper justification should be communicated to the University), he/she shall be treated as withdrawn from the project.

6. PI's and Co-PI's should fill the Forms A to F and submit to TEQIP-III JNTUH whenever required.

7. Pl's and Co-Pl's should submit Form A within 3 days after receiving the sanction letter.

 PI's and Co-PI's should be present at the time of first Progress evaluation after 4 months and all other subsequent Progress Evaluations (once in 4 months) conducted at TEQIP-III JNTUH.

 The Second Installment of Rs.1,00,000 of Research grant will be released on satisfactory performance in first Progress Evaluation and submission of Form B and Form D duly filled and signed.

10. The 3<sup>rd</sup> and final installment will be released upon submission of Form C and D and satisfactory Performance in the next Progress Evaluation.

Principal
TKR Scanned by Cam Scanner

Medbowli Mearcal, Hyderabad- 5000-7



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet, Hyderabad - 500 036. A.P.

Phone: 040 - 65587536, 65347536, Fax: +91-040-24094567

President:

Teegala Krishna Reddy

Secretary:

Teegala Harinath Reddy

Mobile: 98496 83333

Treasurer:

Teegala Amarnath Reddy

Mobile: 94403 36464

TKRES/Research fund/2020/26

Dt. 11-09-2020

#### SANCTION ORDER

Sub: Financial support for research project titled "An Initiative for Developing and Harnessing Innovations" under the guidance of Dr. D. V. Ravi Shankar, Dr. K. Raju and Dr. B. Rajini Kanth, Meerpet, TKRCET, Hyderabad.

**Ref.** With reference to the TKR Education Society Governing Body resolution dated 03-02-2020, TKRES/Research fund/2020/09.

It is here glad to inform you that research project titled "An Initiative for Developing and Harnessing Innovations" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 75,00,000/- (Seventy Five Lakhs) for a duration of five year.

The details of the budget sanctioned for each component is given below.

| S.No. | Head   | Total in (Rs.) |
|-------|--|----------------|
| 1     | Renovation/furnishing of space i-<br>TBI HYDERAB | 20,00,000/-    |
| 2     | Fab Labs   | 55,50,000/-    |
| ind   | Total (Rs.)                                      | 75,00,000/-    |

For TKR EDUCATIONAL SOCIETY

Treasurer TREASURER

ĺ



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet, Hyderabad - 500 036. A.P.

Phone: 040 - 65587536, 65347536, Fax: +91-040-24094567

President:

Teegala Krishna Reddy

Secretary:

Teegala Harinath Reddy

Mobile: 98496 83333

Treasurer:

Teegala Amarnath Reddy

Mobile: 94403 36464

TKRES/Research fund/2020/09

Governing Body Resolution of the Society

Date: 03-02-2020 Time: 11:00AM

Venue: Chairman Chamber, TKRES

The following resolution was passed at the Board meeting held on 03-02-2020 of TKR Educational Society, held at its registered office at # 16-12-751/A/31/C. Tirumala Hills, Asamgadh, Malkapet, Hyderabad-5000036. Telangana and have been recorded as per agenda.

Honorable Secretary Dr. Harinath Reddy, proposed to sanction an amount of RS. 2.2crores to be spent in the upcoming 5 academic years. i.e. from AY 2019-20 to 2023-24 towards developing R & D infrastructure to establish research echo system at TKR College of Engineering and Technology (K9). After thorough discussion the management governing body unanimously agreed upon to sanction the budget from the TKR EDUCATIONAL SOCIETY. The society governing body authorized to sanction the money as and when required to proceed with spending the money for the Research and Development at TKR College of Engineering and Technology (K9). The sanction orders will be issued for approved proposed research projects by the treasurer Shri. T. Amarnath Reddy.

///Certified True Copy///

For T.K.R. Educational Society.

Mr. T. Krishna Reddy President

Mrs. T. Arundathi
Vice President

Dr. T. Harinath Reddy Secretary

Mrs. T. Tulasi Reddy Joint Secretary

Mr. T. Amarnath Reddy Treasurer 1. Aanumar

### **TKR COLLEGE OF ENGINEERING & TECHNOLOGY**





Medbowli, Meerpet (V), Balapur (M) Ranga Reddy (D), Hyderabad, Telangana - 500097 Mobile: 9100377790, E-mail: info@tkrcet.ac.in, Website: www.tkrcet.ac.in

College Code: K9

TKRCET/Principal/R&D/2020/156

Dt. 14-09-2020

#### SANCTION ORDER

Sub: Financial support for research project titled "An Initiative for Developing and Harnessing Innovations" under the guidance of Dr. D. V. Ravi Shankar, Dr. K. Raju and Dr. B. Rajini Kanth, Meerpet, TKRCET, Hyderabad.

**Ref.** With reference to the TKR Education Society Governing Body resolution dated 03-02-2020 letter no. TKRES/Research fund/2020/09 and sanction order dated 11-09-2020 letter no. TKRES/Research fund/2020/26.

It is here glad to inform you that research project titled "An Initiative for Developing and Harnessing Innovations" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 75,00,000/- (Seventy Five Lakhs) for a duration of five year.

The details of the budget sanctioned for each component is given below.

| S.No. | Head                                 | Total in (Rs.) |  |
|-------|--------------------------------------|----------------|--|
| 1     | Renovation/furnishing of space i-TBI | 20,00,000/-    |  |
| 2     | Fab Labs                             | 55,50,000/-    |  |
|       | Total (Rs.)                          | 75,00,000/-    |  |

Indian in Character 🕝 International in Excellence

Principal

Principal
TKR College of Engineering & Technology
(AUTONOMOUS)



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet, Hyderabad - 500 036. A.P.

Phone: 040 - 65587536, 65347536, Fax: +91-040-24094567

President:

Teegala Krishna Reddy

Secretary:

Teegala Harinath Reddy

Mobile: 98496 83333

Treasurer:

Teegala Amarnath Reddy

Mobile: 94403 36464

TKRES/Research fund/2020/28

Dt. 11-09-2020

#### SANCTION ORDER

Subject: Financial support for research project titled "An adaptive software Defined Network on chip (SD-NOC) for Varying Network Resources in offering Optimal service Quality" under the guidance of Dr. Suaknya, Assoc. professor, ECE, Meerpet, TKRCET, Hyderabad.

**Ref.** With reference to the TKR Education Society Governing Body resolution dated 03-02-2020, TKRES/Research fund/2020/09.

It is here glad to inform you that research project titled "An adaptive software Defined Network on chip (SD-NOC) for Varying Network Resources in offering Optimal service Quality" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 29,47,753 /- (Twenty Nine Lakhs Forty Seven Thousand Seven Fifty Three only) for a duration of three year.

The details of the budget sanctioned for each component is given below.

| S.No.   | Head          | Total in (Rs.) |
|---------|---------------|----------------|
| 1       | Equipment     | 12,97,753/-    |
| 2       | Consumables   | 7,50,000/-     |
| 2       | Travel        | 1,50,000/-     |
| 3 IIdie | Contingencies | 4,50,000/-     |
|         | Total (Rs.)   | 29,47,753/-    |

For TKR EDUCATIONAL SOCIETY

TREASURER



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet. Hyderabad - 500 036. A.P.

Phone: 040 - 65587536, 65347536, Fax: +91-040-24094567

President:

Teegala Krishna Reddy

Secretary:

Teegala Harinath Reddy

Mobile: 98496 83333

Treasurer:

Teegala Amarnath Reddy

Mobile: 94403 36464

TKRES/Research fund/2020/09

Governing Body Resolution of the Society

Date: 03-02-2020

Time: 11:00AM

Venue: Chairman Chamber, TKRES

The following resolution was passed at the Board meeting held on 03-02-2020 of TKR Educational Society, held at its registered office at # 16-12-751/A/31/C. Tirumala Hills, Asamgadh, Malkapet, Hyderabad-5000036. Telangana and have been recorded as per agenda.

Honorable Secretary Dr. Harinath Reddy, proposed to sanction an amount of RS. 2.2crores to be spent in the upcoming 5 academic years. i.e. from AY 2019-20 to 2023-24 towards developing R & D infrastructure to establish research echo system at TKR College of Engineering and Technology (K9). After thorough discussion the management governing body unanimously agreed upon to sanction the budget from the TKR EDUCATIONAL SOCIETY. The society governing body authorized to sanction the money as and when required to proceed with spending the money for the Research and Development at TKR College of Engineering and Technology (K9). The sanction orders will be issued for approved proposed research projects by the treasurer Shri. T. Amarnath Reddy.

///Certified True Copy///

For T.K.R. Educational Society.

Mr. T. Krishna Reddy President

Mrs. T. Arundathi Vice President

Dr. T. Harinath Reddy Secretary

> Mrs. T. Tulasi Reddy Joint Secretary

Mr. T. Amarnath Reddy Treasurer

### TKR COLLEGE OF ENGINEERING & TECHNOLOGY





Medbowli, Meerpet (V), Balapur (M) Ranga Reddy (D), Hyderabad, Telangana - 500097

Mobile: 9100377790, E-mail: info@tkrcet.ac.in, Website: www.tkrcet.ac.in

College Code: K9

TKRCET/Principal/R&D/2020/158

Dt. 14-09-2020

#### SANCTION ORDER

Subject: Financial support for research project titled "An adaptive software Defined Network on chip (SD-NOC) for Varying Network Resources in offering Optimal service Quality" under the guidance of Dr. Suaknya, Assoc. professor, ECE, Meerpet, TKRCET, Hyderabad.

**Ref.** With reference to the TKR Education Society Governing Body resolution dated 03-02-2020 letter no. TKRES/Research fund/2020/09 and sanction order dated 11-09-2020 letter no. TKRES/Research fund/2020/28.

It is here glad to inform you that research project titled "An adaptive software Defined Network on chip (SD-NOC) for Varying Network Resources in offering Optimal service Quality" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 29,47,753 /- (Twenty Nine Lakhs Forty Seven Thousand Seven Fifty Three only) for a duration of three year.

The details of the budget sanctioned for each component is given below.

| S.No. | Head          | Total in (Rs.) |
|-------|---------------|----------------|
| 1     | Equipment     | 12,97,753/-    |
| 2     | Consumables   | 7,50,000/-     |
| 2     | Travel        | 1,50,000/-     |
| 3     | Contingencies | 4,50,000/-     |
|       | Total (Rs.)   | 29,47,753/-    |

Principal

Principal



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet, Hyderabad - 500 036. A.P.

Phone: 040 - 65587536, 65347536, Fax: +91-040-24094567

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Teegala Krishna Reddy

Secretary:

Teegala Harinath Reddy

Mobile : 98496 83333

Treasurer:

Teegala Amarnath Reddy

Mobile: 94403 36464

TKRES/Research fund/2020/27

Dt. 11-09-2020

#### SANCTION ORDER

Sub: Financial support for research project titled "Remote controlled aquaponic system using IoT and AI" under the guidance of Dr.R.Muruganantham, Professor, IT, Meerpet, TKRCET, Hyderabad.

**Ref.** With reference to the TKR Education Society Governing Body resolution dated 03-02-2020, TKRES/Research fund/2020/09.

It is here glad to inform you that research project titled "Remote controlled aquaponic system using IoT and AI" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 8,00,000/-(Eight Lakhs only) for a duration of three year.

The details of the budget sanctioned for each component is given below.

| S.No. | Head               | Total in (Rs.) |
|-------|--------------------|----------------|
| 1     | Equipment          | 6,00,000/-     |
| 2     | Consumables        | 50,000/-       |
| 3     | Travel             | 1,00,000/-     |
| 4     | Contingencies      | 50,000/-       |
|       | Total (Rs.) HYDERA | 8,00,000/-     |

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FOR THE EDUCATIONAL SOCIETY

Treasurer TREASURER



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet, Hyderabad - 500 036. A.P.

Phone: 040 - 65587536, 65347536, Fax: +91-040-24094567

President:

Teegala Krishna Reddy

Secretary:

Teegala Harinath Reddy

Mobile: 98496 83333

Treasurer:

Teegala Amarnath Reddy

Mobile: 94403 36464

TKRES/Research fund/2020/09

Governing Body Resolution of the Society

Date: 03-02-2020 Time: 11:00AM

Venue: Chairman Chamber, TKRES

The following resolution was passed at the Board meeting held on 03-02-2020 of TKR Educational Society, held at its registered office at # 16-12-751/A/31/C. Tirumala Hills, Asamgadh, Malkapet, Hyderabad-5000036. Telangana and have been recorded as per agenda.

Honorable Secretary Dr. Harinath Reddy, proposed to sanction an amount of RS. 2.2crores to be spent in the upcoming 5 academic years. i.e. from AY 2019-20 to 2023-24 towards developing R & D infrastructure to establish research echo system at TKR College of Engineering and Technology (K9). After thorough discussion the management governing body unanimously agreed upon to sanction the budget from the TKR EDUCATIONAL SOCIETY. The society governing body authorized to sanction the money as and when required to proceed with spending the money for the Research and Development at TKR College of Engineering and Technology (K9). The sanction orders will be issued for approved proposed research projects by the treasurer Shri. T. Amarnath Reddy.

///Certified True Copy///

For T.K.R. Educational Society.

Mr. T. Krishna Reddy President

Mrs. T. Arundathi
Vice President

Indian in Cha Dr. T. Harinath Reddy Secretary

Mrs. T. Tulasi Reddy
Joint Secretary

Mr. T. Amarnath Reddy Treasurer 1. Havemen

### TKR COLLEGE OF ENGINEERING & TECHNOLOGY

(Sponsored by TKR Educational Society, Approved by AICTE, Affiliated to JNTUH) AN AUTONOMOUS INSTITUTION

Accredited by NBA and NAAC with 'A' Grade

Medbowli, Meerpet (V), Balapur (M) Ranga Reddy (D), Hyderabad, Telangana - 500097 Mobile: 9100377790, E-mail: info@tkrcet.ac.in, Website: www.tkrcet.ac.in

College Code: K9

TKRCET/Principal/R&D/2020/157

Dt. 14-09-2020

#### SANCTION ORDER

Sub: Financial support for research project titled "Remote controlled aquaponic system using IoT and AI" under the guidance of Dr.R.Muruganantham, Professor, IT, Meerpet, TKRCET, Hyderabad.

Ref. With reference to the TKR Education Society Governing Body resolution dated 03-02-2020 letter no. TKRES/Research fund/2020/09 and sanction order dated 11-09-2020 letter no. TKRES/Research fund/2020/27.

It is here glad to inform you that research project titled "Remote controlled aquaponic system using IoT and AI" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 8,00,000/- (Eight Lakhs only) for a duration of three year.

The details of the budget sanctioned for each component is given below.

| S.No. | Head          | Total in (Rs.) |
|-------|---------------|----------------|
| 1     | Equipment     | 6,00,000/-     |
| 2     | Consumables   | 50,000/-       |
| 3     | Travel        | 1,00,000/-     |
| 4     | Contingencies | 50,000/-       |
|       | Total (Rs.)   | 8,00,000/-     |

Indian in Character International in Excellence

Principal

Principal

TKR College of Engineering & Technology (AUTONOMOUS)

#### FILE NO. SRG/2021/001392

#### SCIENCE & ENGINEERING RESEARCH BOARD(SERB)

(A statutory body of the Department of Science & Technology, Government of India)

Science and Engineering Research Board 3rd & 4th Floor, Block II Technology Bhavan, New Mehrauli Road New Delhi - 110016

Dated: 29 December, 2021

#### ORDER

Subject: Financial Sanction of the research project titled Quality of Signal Improvement in Prominent GNRFET based Ternary Logic System for Futuristic Dielectric Inserted MLGNRs for Integrated Circuit Designs under the guidance of Dr. MEKALA GIRISH KUMAR, Electronics and Communication Engineering, TKR College of Engineering & Technology , Survey no -8/a, raghava nagar colony, medbowli, meerpet, hyderabad, Hyderabad, Telangana-500097 - Release of 1st grant.

Sanction of Science and Engineering Research Board (SERB) is hereby accorded to the above mentioned project at a total cost of Rs. 1346400/- (Rs. Thirteen Lakh Forty Six Thousand Four Hundred Only) with break-up of Rs. 255000/- under Capital (Non-recurring) head and Rs.1091400/- under General (Recurring) head for a duration of 24 months. The items of expenditure for which the total allocation of Rs. 1346400/- has been approved are given below:

The following budget may be considered for TKR College Of Engineering & Technology, Survey No -8/A, Raghava Nagar Colony, Medbowli, Meerpet, Hyderabad

| S. No | Head   | Total (in Rs.)            |
|-------|--|---------------------------|
| A     | Non-recurring  | (                         |
| 1     | Equipment -> HSPICE  | 255000                    |
| A'    | Total (Non-Recurring)  | 255000                    |
| В     | Recurring Items  |                           |
| 1     | Recurring - I : (Manpower) Recurring - II : (Travel, Contingencies) Recurring - III : Scientific Social Responsibility | 744000<br>200000<br>25000 |
| 2     | Recurring - IV : (Overhead Charges)  | 122400                    |
| B' .  | Total (Recurring)  | 1091400                   |
| С     | Total cost of the project (A' + B')  | 1346400                   |

- 2. Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at website ( www.serb.gov.in).
- 3. Overhead expenses are meant for the host Institute towards the cost for providing infrastructural facilities and general administrative support etc. including benefits to the staff employed in the project.
- 4. While providing operational flexibility among various subheads under head Recurring-II, it should be ensured that not more than Rs. 1.5 lakh each should be spent for travel and contingency.
- 5. Budget sanctioned under Scientific Social Responsibility (SSR) is meant only for activites enlisted under SSR norms and under no circumstances it can be reappropriated.
- 6. As per rule 211 of GFR, the accounts of project shall be open to inspection by sanctioning authority/audit whenever the institute is called upon to do so.
- 7. The sanctioned equipment would be procured as per GFR and its disposal of the same would be done with prior approval of SERB.

- 8.The institute will furnish to the SERB, separate Utilization certificate(UCs) financial year wise to the SERB for Recurring (Grants-in-aid General) & Non-Recurring (Grants for creation of capital assets) and an audited statement of accounts pertaining to the grant immediately after the end of each financial year.
- 9. The institute will maintain separate audited accounts for the project. A part or whole of the grant must be kept in an interest earning bank account which is to be reported to SERB. The interest thus earned will be treated as credit to the institute to be adjusted towards further installment of the grant.
- 10. The manpower sanctioned in the project, if any is co-terminus with the duration of the project and SERB will have no liability to meet the fellowship and salary of supporting staff if any. beyond the duration of the project
- 11. The institute may refund any unspent balance to SERB by means of a Demand Draft favoring "FUND FOR SCIENCE AND ENGINEERING RESEARCH" payable at New Delhi.
- 12. The project File no. SRG/2021/001392 should be mentioned in all communications arising from the above project. The organization/institute/university should ensure that the technical support/financial assistance provided to them by SERB should invariably be highlighted/acknowledged in their media releases as well as in bold letters in the opening paragraphs of their Annual Report.
- 13. In addition, the investigator/host institute must also acknowledge the support provided to them in all publications, patents and any other output emanating out of the project/program funded by SERB.

14. Sanction order for release of funds under a) Non-recurring and b) Recurring will be issued separately depending on the availability of funds. The project become operational from the day the first release of grant received by the implementing Institute.

(Dr. Ramesh Vijayan) Scientist - D drvramesh@serb.gov.in

To, Under Secretary SERB, New Delhi

Copy forwarded for information and necessary action to: -

| 1. | The Principal Director of Audit, A.G.C.R.Building, IIIrd Floor I.P. Estate, Delhi-110002   |
|----|--|
| 2. | Sanction Folder, SERB, New Delhi.  |
| 3. | File Copy  |
| 4. | Dr. MEKALA GIRISH KUMAR Electronics and Communication Engineering TKR College of Engineering & Technology, Survey no -8/a, raghava nagar colony, medbowli, meerpet, hyderabad, Hyderabad, Telangana-500097 Email: mekalagirishkumar@tkrcet.com Mobile: 916300718482 (Start date of the project may be intimated by name to the undersigned. For guidance, terms & Conditions etc. Please visit www.serb.gov.in.) |
| 5. | PRINCIPAL, TKR College Of Engineering & Technology, Survey No -8/A, Raghava Nagar Colony, Medbowli, Meerpet, Hyderabad  (Receipt of Grant may be intimated by name to the undersigned)   |

4

(Dr. Ramesh Vijayan)

Scientist - D drvramesh@serb.gov.in

TKR College of Engineering & Technolog

### FILE NO. SRG/2021/001392-G SCIENCE & ENGINEERING RESEARCH BOARD(SERB)

(A statutory body of the Department of Science & Technology, Government of India)

Science and Engineering Research Board 3rd & 4th Floor, Block II Technology Bhavan, New Mehrauli Road New Delhi - 110016

Dated: 29 December, 2021 <

ORDER

Subject: Research project entitled Quality of Signal Improvement in Prominent GNRFET based Ternary Logic System for Futuristic Dielectric Inserted MLGNRs for Integrated Circuit Designs under the guidance of Dr. MEKALA GIRISH KUMAR, Electronics and Communication Engineering, TKR College of Engineering & Technology, Survey no -8/a, raghava nagar colony, medbowli, meerpet, hyderabad, Hyderabad, Telangana-500097.

- 1. In continuation of SERB's sanction order No. SRG/2021/001392 dated 29 December, 2021, sanction of the competent authority is hereby accorded to the payment of a sum of Rs.558200/- under 'Grants-in-aid General' to TKR College Of Engineering & Technology, Survey No -8/a, Raghava Nagar Colony, Medbowli, Meerpet, Hyderabad, Hyderabad, Telangana-500097 being the grant for the financial year 2021-2022 for implementation of the above said project.
- 2. Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at the website (www.serb.gov.in) and as mentioned in the sanction order of even number dated 29 December, 2021.
- 3. As this is the first grant being released under 'Grants-in-aid General' for the project, no previous U/C is required.
- 4. The expenditure involved is debitable to Fund for Science & Engineering Research (FSER) This release is being made under Start-up Research Grant (General).(EC Engineering Sciences)
- 5. The Sanction has been issued with the approval of the competent authority on 22 December, 2021 and vide Diary No. SERB/F/5901/2021-2022 dated 23 December, 2021...
- 6. The release amount of Rs. 558200/- (Rupees Five Lakh Fifty Eight Thousand Two Hundred only) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

| PFMS Unique Code          | TLRA00000856  | ~   |
|---------------------------|---|-----|
| Account Name              | TKR COLLEGE OF ENGINEERING AND TECHNOLOGY A UNIT OF TKR EDUCATIONAL SOCIETY | <   |
| Account Number            | 0696053000003739  |     |
| Bank Name & Branch        | THE SOUTH INDIAN BANK LIMITED MEDBOWLI, R.R. DIST., HYDERABAD-500097        |     |
| IFSC/RTGS Code            | SIBL0000696   |     |
| Email id of A/C<br>Holder | shankardasari@rediffmail.com  |     |
| Email id of PI            | mekalagirishkumar@tkrcet.com  | , / |

(Dr. Ramesh Vijayan) Scientist - D drvramesh@serb.gov.in

To, Under Secretary SERB, New Delhi

Copy forwarded for information and necessary action to: -

| 1. | The Principal Director of Audit, A.G.C.R.Building, IIIrd Floor I.P. Estate, Delhi-110002 |  |
|----|--|--|
| 2. | Sanction Folder, SERB , New Delhi.   |  |
| 3. | File Copy  |  |

| 4. | Dr. MEKALA GIRISH KUMAR  |
|----|--|
|    | Electronics and Communication Engineering  |
|    | TKR College of Engineering & Technology, Survey no -8/a, raghava nagar colony, medbowli, meerpet, hyderabad, Hyderabad, Telangana-500097   |
|    | Email: mekalagirishkumar@tkrcet.com  |
|    | Mobile: 916300718482 (Start date of the project may be intimated by name to the undersigned. For guidance, terms & Conditions etc. Please visit <a href="https://www.serb.gov.in">www.serb.gov.in</a> .) |
| 5. | PRINCIPAL,<br>TKR College Of Engineering & Technology, Survey No -8/A, Raghava Nagar Colony, Medbowli,<br>Meerpet, Hyderabad   |
|    | (Receipt of Grant may be intimated by name to the undersigned)   |

(Dr. Ramesh Vijayan) Scientist - D drvramesh@serb.gov.in

### FILE NO. SRG/2021/001392-C SCIENCE & ENGINEERING RESEARCH BOARD(SERB)

(A statutory body of the Department of Science & Technology, Government of India)

Science and Engineering Research Board 3rd & 4th Floor, Block II Technology Bhavan, New Mehrauli Road New Delhi - 110016

Dated: 29 December, 2021

ORDER

Subject: Research project entitled Quality of Signal Improvement in Prominent GNRFET based Ternary Logic System for Futuristic Dielectric Inserted MLGNRs for Integrated Circuit Designs under the guidance of Dr. MEKALA GIRISH KUMAR, Electronics and Communication Engineering, TKR College of Engineering & Technology, Survey no -8/a, raghava nagar colony, medbowli, meerpet, hyderabad, Hyderabad, Telangana-500097.

- 1. In continuation of SERB's sanction order No. SRG/2021/001392 dated 29 December, 2021, sanction of the competent authority is hereby accorded to the payment of a sum of Rs.255000/- under 'Grants-in-aid Capital' to TKR College Of Engineering & Technology , Survey No -8/a, Raghava Nagar Colony, Medbowli, Meerpet, Hyderabad, Hyderabad, Telangana-500097 being the grant for the financial year 2021-2022 for implementation of the above said project.
- 2. Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at the website (www.serb.gov.in) and as mentioned in the sanction order of even number dated 29 December, 2021.
- 3. As this is the first grant being released under 'Grants-in-aid Capital' for the project, no previous U/C is required.
- 4. The expenditure involved is debitable to Fund for Science & Engineering Research (FSER) This release is being made under Start-up Research Grant (Capital). (EC Engineering Sciences)
- 5. The Sanction has been issued with the approval of the competent authority on 22 December, 2021 and vide Diary No. SERB/F/5900/2021-2022 dated 23 December, 2021.
- 6. The release amount of Rs. 255000/- (Rupees Two Lakh Fifty Five Thousand only) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

| TLRA00000856  | _  |
|---|--|
| TKR COLLEGE OF ENGINEERING AND TECHNOLOGY A UNIT OF TKR EDUCATIONAL SOCIETY |  |
| 0696053000003739  |  |
| THE SOUTH INDIAN BANK LIMITED MEDBOWLL B B DIST HYDERABAD-500007            |  |
| SIBL0000696   |  |
| shankardasari@rediffmail.com  | _  |
| mekalagirishkumar@tkrcet.com  | -  |
| -   | TKR COLLEGE OF ENGINEERING AND TECHNOLOGY A UNIT OF TKR EDUCATIONAL SOCIETY  0696053000003739  THE SOUTH INDIAN BANK LIMITED MEDBOWLI, R.R. DIST., HYDERABAD-500097  SIBL0000696  shankardasari@rediffmail.com |

(Dr. Ramesh Vijayan) Scientist - D

drvramesh@serb.gov.in

To, Under Secretary SERB, New Delhi

Copy forwarded for information and necessary action to: -

| 1. | The Principal Director of Audit, A.G.C.R.Building, IIIrd Fl | loor I D Fototo Della: 110000  |
|----|---|--------------------------------|
| 2. | Sanction Folder, SERB , New Delhi.                          | ioor i.F. Estate, Deini-110002 |
| 3. | File Copy   |                                |

| 4. | Dr. MEKALA GIRISH KUMAR  Electronics and Communication Engineering  TKR College of Engineering & Technology, Survey no -8/a, raghava nagar colony, medbowli, meerpet, hyderabad, Hyderabad, Telangana-500097  Email: mekalagirishkumar@tkrcet.com  Mobile: 916300718482  (Start date of the project may be intimated by name to the undersigned. For guidance, terms & Conditions etc. Please visit <a href="https://www.serb.gov.in">www.serb.gov.in</a> .) |
|----|--|
| 5. | PRINCIPAL, TKR College Of Engineering & Technology, Survey No -8/A, Raghava Nagar Colony, Medbowli, Meerpet, Hyderabad  (Receipt of Grant may be intimated by name to the undersigned)   |

(Dr. Ramesh Vijayan) Scientist - D drvramesh@serb.gov.in



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet, Hyderabad - 500 036. A.P.

Phone: 040 - 65587536, 65347536, Fax: +91-040-24094567

President:

Teegala Krishna Reddy

Secretary:

Teegala Harinath Reddy

Mobile: 98496 83333

Treasurer:

Teegala Amarnath Reddy

Mobile: 94403 36464

TKRES/Research fund/2021/34

Dt. 08-09-2021

#### SANCTION ORDER

Sub: Financial support for research project titled "Development of Decentralized Artificial Wetland System for Domestic Wastewater Treatment" under the guidance of Dr. Prem Sudha Rangaswamy, Associate Professor, Civil, Meerpet, TKRCET, Hyderabad.

**Ref.** With reference to the TKR Education Society Governing Body resolution dated 03-02-2020, TKRES/Research fund/2020/09.

It is here glad to inform you that research project titled "Development of Decentralized Artificial Wetland System for Domestic Wastewater Treatment" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 37,62,000/- (Thirty Seven Lakhs Sixty Two Thousand only) for a duration of three year.

The details of the budget sanctioned for each component is given below.

| S.No.  | Head          | Total in (Rs.) |
|--------|---------------|----------------|
| 1      | Equipment     | 18,12,000/-    |
| 2      | Consumables   | 9,00,000/-     |
| 2      | Travel        | 1,50,000/-     |
| 3 ndia | Contingencies | 9,00,000/-     |
|        | Total (Rs.)   | 37,62,000/-    |

FOR THE EDG A TONAL SOCIETY

TREASURER

Treasurer



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet, Hyderabad - 500 036. A.P.

Phone: 040 - 65587536, 65347536, Fax: +91-040-24094567

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Secretary:

Teegala Harinath Reddy

Mobile: 98496 83333

Treasurer:

Teegala Amarnath Reddy

Mobile: 94403 36464

TKRES/Research fund/2020/09

Governing Body Resolution of the Society

Date: 03-02-2020 Time: 11:00AM

Venue: Chairman Chamber, TKRES

The following resolution was passed at the Board meeting held on 03-02-2020 of TKR Educational Society, held at its registered office at # 16-12-751/A/31/C. Tirumala Hills, Asamgadh, Malkapet, Hyderabad-5000036. Telangana and have been recorded as per agenda.

Honorable Secretary Dr. Harinath Reddy, proposed to sanction an amount of RS. 2.2crores to be spent in the upcoming 5 academic years. i.e. from AY 2019-20 to 2023-24 towards developing R & D infrastructure to establish research echo system at TKR College of Engineering and Technology (K9). After thorough discussion the management governing body unanimously agreed upon to sanction the budget from the TKR EDUCATIONAL SOCIETY. The society governing body authorized to sanction the money as and when required to proceed with spending the money for the Research and Development at TKR College of Engineering and Technology (K9). The sanction orders will be issued for approved proposed research projects by the treasurer Shri. T. Amarnath Reddy.

///Certified True Copy///

For T.K.R. Educational Society.

Mr. T. Krishna Reddy President

Mrs. T. Arundathi
Vice President

Dr. T. Harinath Reddy
Secretary

Mrs. T. Tulasi Reddy Joint Secretary

T. Tolsi

Mr. T. Amarnath Reddy Treasurer 1. Havinor

# TKR COLLEGE OF ENGINEERING & TECHNOLOGY

(Sponsored by TKR Educational Society, Approved by AICTE, Affiliated to JNTUH)

AN AUTONOMOUS INSTITUTION

Accredited by NBA and NAAC with 'A' Grade

Medbowli, Meerpet (V), Balapur (M) Ranga Reddy (D), Hyderabad, Telangana - 500097

Mobile: 9100377790, E-mail: info@tkrcet.ac.in, Website: www.tkrcet.ac.in

TKRCET/Principal/R&D/2021/140

College Code: K9

Dt. 10-09-2021

#### SANCTION ORDER

Sub: Financial support for research project titled "Development of Decentralized Artificial Wetland System for Domestic Wastewater Treatment" under the guidance of Dr. Prem Sudha Rangaswamy, Associate Professor, Civil, Meerpet, TKRCET, Hyderabad.

**Ref.** With reference to the TKR Education Society Governing Body resolution dated 03-02-2020 letter no. TKRES/Research fund/2020/09 and sanction order dated 08-09-2021 letter no. TKRES/Research fund/2021/34.

It is here glad to inform you that research project titled "Development of Decentralized Artificial Wetland System for Domestic Wastewater Treatment" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 37,62,000/- (Thirty Seven Lakhs Sixty Two Thousand only) for a duration of three year.

The details of the budget sanctioned for each component is given below.

| Head          | Total in (Rs.)                             |
|---------------|--|
| Equipment     | 18,12,000/-                                |
| Consumables   | 9,00,000/-                                 |
| Travel        | 1,50,000/-                                 |
| Contingencies | 9,00,000/-                                 |
| Total (Rs.)   | 37,62,000/-                                |
|               | Equipment Consumables Travel Contingencies |

Principal

TKR College of Engineering & Technology
(AUTONOMOUS)



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet, Hyderabad - 500 036. A.P.

Phone: 040 - 65587536, 65347536, Fax: +91-040-24094567

President:

Teegala Krishna Reddy

Secretary:

Teegala Harinath Reddy

Mobile: 98496 83333

Treasurer:

Teegala Amarnath Reddy

Mobile: 94403 36464

TKRES/Research fund/2021/33

Dt. 08-09-2021

#### SANCTION ORDER

**Sub:** Financial support for research project titled "**Design of Synchronous reluctance motor**" under the guidance of Dr. Md Qutubuddin, Associate Professor, EEE, Meerpet, TKRCET, Hyderabad.

**Ref.** With reference to the TKR Education Society Governing Body resolution dated 03-02-2020, TKRES/Research fund/2020/09.

It is here glad to inform you that research project titled "Design of Synchronous reluctance motor" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 15,00,000/-(Fifteen Lakhs only) for a duration of three year.

The details of the budget sanctioned for each component is given below.

| S.No. | Head             | Total in (Rs.)  |
|-------|------------------|-----------------|
| 1     | Equipment        | 10,50,000/-     |
| 2     | Consumables      | 1,50,000/-      |
| 2     | Travel           | 1,00,000/-      |
| 3     | Contingencies HY | DERA 1,00,000/- |
|       | Total (Rs.)      | 15,00,000/-     |

FOR TKR EDUCATIONAL SOCIETY

Treasurer TREASURER



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet, Hyderabad - 500 036. A.P.

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President:

Teegala Krishna Reddy

Secretary:

Teegala Harinath Reddy

Mobile: 98496 83333

Treasurer:

Teegala Amarnath Reddy

Mobile: 94403 36464

TKRES/Research fund/2020/09

Governing Body Resolution of the Society

Date: 03-02-2020 Time: 11:00AM

Venue: Chairman Chamber, TKRES

The following resolution was passed at the Board meeting held on 03-02-2020 of TKR Educational Society, held at its registered office at # 16-12-751/A/31/C. Tirumala Hills, Asamgadh, Malkapet, Hyderabad-5000036. Telangana and have been recorded as per agenda.

Honorable Secretary Dr. Harinath Reddy, proposed to sanction an amount of RS. 2.2crores to be spent in the upcoming 5 academic years. i.e. from AY 2019-20 to 2023-24 towards developing R & D infrastructure to establish research echo system at TKR College of Engineering and Technology (K9). After thorough discussion the management governing body unanimously agreed upon to sanction the budget from the TKR EDUCATIONAL SOCIETY. The society governing body authorized to sanction the money as and when required to proceed with spending the money for the Research and Development at TKR College of Engineering and Technology (K9). The sanction orders will be issued for approved proposed research projects by the treasurer Shri. T. Amarnath Reddy.

///Certified True Copy///

For T.K.R. Educational Society.

Mr. T. Krishna Reddy President

Mrs. T. Arundathi
Vice President

Dr. T. Harinath Reddy Secretary

Mrs. T. Tulasi Reddy Joint Secretary

Mr. T. Amarnath Reddy
Treasurer

1. 10.3.

To Ara vumor

### TKR COLLEGE OF ENGINEERING & TECHNOLOGY

(Sponsored by TKR Educational Society, Approved by AICTE, Affiliated to JNTUH)
AN AUTONOMOUS INSTITUTION

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Mobile: 9100377790, E-mail: info@tkrcet.ac.in, Website: www.tkrcet.ac.in

College Code: K9

Dt. 10-09-2021

TKRCET/Principal/R&D/2021/139

#### SANCTION ORDER

Sub: Financial support for research project titled "Design of Synchronous reluctance motor" under the guidance of Dr. Md Qutubuddin, Associate Professor, EEE, Meerpet, TKRCET, Hyderabad.

**Ref.** With reference to the TKR Education Society Governing Body resolution dated 03-02-2020 letter no. TKRES/Research fund/2020/09 and sanction order dated 08-09-2021 letter no. TKRES/Research fund/2021/33.

It is here glad to inform you that research project titled "Design of Synchronous reluctance motor" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 15,00,000/- (Fifteen Lakhs only) for a duration of three year.

The details of the budget sanctioned for each component is given below.

| S.No. | Head          | Total in (Rs.) |
|-------|---------------|----------------|
| 1     | Equipment     | 10,50,000/-    |
| 2     | Consumables   | 1,50,000/-     |
| 2     | Travel        | 1,00,000/-     |
| 3     | Contingencies | 1,00,000/-     |
|       | Total (Rs.)   | 15,00,000/-    |

Indian in Character 🐼 International in Excellence

Principal



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet, Hyderabad - 500 036. A.P.

Phone: 040 - 65587536, 65347536, Fax: +91-040-24094567

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Teegala Krishna Reddy

Secretary:

Teegala Harinath Reddy

Mobile: 98496 83333

Treasurer:

Teegala Amarnath Reddy

Mobile: 94403 36464

TKRES/Research fund/2021/32

Dt. 08-09-2021

#### SANCTION ORDER

Sub: Financial support for research project titled "Development of Prediction model for heart attacks using diabetic retinopathy and Cortisol levels" under the guidance of Dr. A Suresh Rao, Professor, CSE, and Dr. M. Girish Kumar, Assoc. Professor, ECE, Meerpet, TKRCET, Hyderabad.

**Ref.** With reference to the TKR Education Society Governing Body resolution dated 03-02-2020, TKRES/Research fund/2020/09.

It is here glad to inform you that research project titled "Development of Prediction model for heart attacks using diabetic retinopathy and Cortisol levels" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 23,96,000/- (Twenty Three Lakhs Ninty Six thousand only) for a duration of three year.

The details of the budget sanctioned for each component is given below.

| S.No.  | Head          | Total in (Rs.) |  |  |  |
|--------|---------------|----------------|--|--|--|
| 1      | Equipment     | 16,16,000/-    |  |  |  |
| 2      | Consumables   | 3,30,000/-     |  |  |  |
| 2      | Travel        | 1,50,000/-     |  |  |  |
| 3 ndia | Contingencies | 3,00,000/-     |  |  |  |
|        | Total (Rs.)   | 23,96,000/-    |  |  |  |

For TKR EDUCATIONAL SOCIETY

Treasurer

TREASURER



(Regd. No. 6490/2001)

# 16-2-751/A/31/C, Tirumala Hills, Asman Gadh, Malakpet, Hyderabad - 500 036. A.P.

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Mobile: 98496 83333

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Mobile: 94403 36464

TKRES/Research fund/2020/09

Governing Body Resolution of the Society

Date: 03-02-2020 Time: 11:00AM

Venue: Chairman Chamber, TKRES

The following resolution was passed at the Board meeting held on 03-02-2020 of TKR Educational Society, held at its registered office at # 16-12-751/A/31/C. Tirumala Hills, Asamgadh, Malkapet, Hyderabad-5000036. Telangana and have been recorded as per agenda.

Honorable Secretary Dr. Harinath Reddy, proposed to sanction an amount of RS. 2.2crores to be spent in the upcoming 5 academic years. i.e. from AY 2019-20 to 2023-24 towards developing R & D infrastructure to establish research echo system at TKR College of Engineering and Technology (K9). After thorough discussion the management governing body unanimously agreed upon to sanction the budget from the TKR EDUCATIONAL SOCIETY. The society governing body authorized to sanction the money as and when required to proceed with spending the money for the Research and Development at TKR College of Engineering and Technology (K9). The sanction orders will be issued for approved proposed research projects by the treasurer Shri. T. Amarnath Reddy.

///Certified True Copy///

For T.K.R. Educational Society.

Mr. T. Krishna Reddy President

Mrs. T. Arundathi
Vice President

Dr. T. Harinath Reddy Secretary

Mrs. T. Tulasi Reddy
Joint Secretary

Mr. T. Amarnath Reddy Treasurer 1. Japanimon

### TKR COLLEGE OF ENGINEERING & TECHNOLOGY

(Sponsored by TKR Educational Society, Approved by AICTE, Affiliated to JNTUH)
AN AUTONOMOUS INSTITUTION



Medbowli, Meerpet (V), Balapur (M) Ranga Reddy (D), Hyderabad, Telangana - 500097

Mobile: 9100377790, E-mail: info@tkrcet.ac.in, Website: www.tkrcet.ac.in

College Code: K9

Dt. 10-09-2021

TKRCET/Principal/R&D/2021/138

#### **SANCTION ORDER**

Sub: Financial support for research project titled "Development of Prediction model for heart attacks using diabetic retinopathy and Cortisol levels" under the guidance of Dr. A Suresh Rao, Professor, CSE, and Dr. M. Girish Kumar, Assoc. Professor, ECE, Meerpet, TKRCET, Hyderabad.

**Ref.** With reference to the TKR Education Society Governing Body resolution dated 03-02-2020 letter no. TKRES/Research fund/2020/09 and sanction order dated 08-09-2021 letter no. TKRES/Research fund/2021/32.

It is here glad to inform you that research project titled "Development of Prediction model for heart attacks using diabetic retinopathy and Cortisol levels" is hereby accorded to the above-mentioned research support project at a total cost of Rs. 23,96,000/- (Twenty Three Lakhs Ninty Six thousand only) for a duration of three year.

The details of the budget sanctioned for each component is given below.

| S.No. | Head          | Total in (Rs.) |  |  |  |
|-------|---------------|----------------|--|--|--|
| 1     | Equipment     | 16,16,000/-    |  |  |  |
| 2     | Consumables   | 3,30,000/-     |  |  |  |
| 2     | Travel        | 1,50,000/-     |  |  |  |
| 3     | Contingencies | 3,00,000/-     |  |  |  |
|       | Total (Rs.)   | 23,96,000/-    |  |  |  |

Principal

Principal

TKR College of Engineering & Technology (AUTONOMOUS)

### विकास आयुक्त का कार्यालय

(सूक्ष्म, लघु एवं मध्यम उद्यम) सूक्ष्म, लघु एवं मध्यम उद्यम मंत्राालय (भारत सरकार)

निर्माण भवन, सातवी मंजिल, मौलाना आजाद रोड़, नई दिल्ली-110 108



#### OFFICE OF THE DEVELOPMENT COMMISSONER (MICRO, SMALL & MEDIUM ENTERPRISES)

MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES GOVERNMENT OF INDIA

> Nirman Bhawan, 7° Floor, Maulana Azad Road, New Delhi-110 108

Ph. EPAX-23063800, 23063802, 23063803, 23063804, 23063805 & 23063806

F.No. 6(19)/Sanction to CNA/Incubation /2022-23

Dated: 17/08/2022

To.

The Accounts Officer,
Pay & Accounts Office,
Micro, Small & Medium Enterprises,
New Delhi.

#### SANCTION ORDER

Subject: Sanction of payment of Rs. 20,57,00,000/- to CENTRAL TOOL ROOM AND TRAINING CENTRE (CTTC), Bhubaneswar, ODISHA towards implementation of Incubation Component of MSME Innovative Scheme for FY 2022-23:reg.

Sanction of the President of India is hereby conveyed to release of payment of Rs. 20,57,00,000/- (Rupees Twenty Crore Fifty Seven Lakh Only) under Grant-in-aid General for implementation of Incubation Component of MSME Innovative Scheme, a component of MSME Champions Scheme under Technology Upgradation and Quality Certification (CLCS-TUS), to Central Tool Room And Training Centre (CTTC), Bhubaneswar, Odisha as Central Nodal Agency (CNA) w.r.t. approval in 2<sup>nd</sup> PMAC held on dt. 22.06.2022 for the FY 2022-23. The details are as under:

(Rs. in lakh)

| S. No. | BE of<br>MSME<br>Champions<br>Scheme<br>2022-23 | Amount<br>approved<br>in 2 <sup>nd</sup><br>PMAC | Amount<br>Concurred<br>by IFW | 1 <sup>st</sup> release as per<br>Scheme<br>Guidelines 70%<br>of amount<br>approved and<br>available funds<br>under Grant-in-<br>aid General | Fund will<br>be released<br>in due<br>course of | utilization of 60% |
|--------|---|--|-------------------------------|--|---|--------------------|
| 1      | 5072.00   | 2963.676   | 2074.573                      | 2057.0000  | 17.573  | 889.103            |

2. The details of ideas and the respective amount approved in 2<sup>nd</sup> PMAC and 70% of the amount as 1<sup>st</sup> installment as per scheme guidelines are as per Annexure-A

#### 3. Roles and Responsibilities of CNA:

Central Tool Room And Training Centre (CTTC), Bhubaneswar, Odisha shall release the amount to the respective Host Institutes (HIs) as per the Annexure-A after submission/upload all requisite documents on MIS portal by the HIs concerned as per the scheme guidelines. The Grant-in-Aid will be regulated in accordance with the OM of Dept. of Expenditure, Ministry of Finance vide No. 1(18)/PFMS/FCD/2021 dated 9<sup>th</sup> March, 2022 (copy attached) regarding revised procedure for flow of funds under Central Sector Schemes and provisions contained in the Incubation Component of MSME Innovative Scheme. CTTC, Bhubaneswar, Odisha has been nominated as CNA vide letter No. 41(1)/Budget/MSME Champions/2021 dated 27.06.2022 for Incubation Component of MSME Innovative Scheme of MSME Champions Scheme (copy of the order enclosed for reference). CTTC, Bhubaneswar shall strictly follow the roles and responsibility as mentioned in the aforesaid O.M. The

TKR College of Engineering & Technology

funds released are also subject to the provisions contained in Chapter 9 of the General Financial Rules, 2005, as amended from time to time, read with the Government of India's decisions incorporated there-under and any other guidelines which may be issued in this regard and in particular to the following conditions:

- i) CTTC, Bhubaneswar shall maintain CNA account of Grant-in-Aid received from the Government and utilized. In addition, a separate Bank account shall be maintained for the Government Grants under this Scheme. (The bank account should be same which was authorized for operation at the time of registration under the central plan Scheme monitoring system (CPSMS) of the Ministry of Finance).
- The grant shall be utilized for the purpose of development of idea under Incubation Component of MSME Innovative Scheme as provisioned in the Scheme guideline. Further, while incurring the expenditure, austerity measures should be taken into account as issued from time to time by competent authority.
- iii) <u>Innovative.msme.gov.in</u> portal shall be used for uploading all relevant information by the HIs as and when required by this office under Incubation Component of MSME Innovative Scheme.
- iv) CTTC, Bhubaneswar shall maintain a register of permanent and semi-permanent assets acquired if any, wholly or mainly out of the above grant in the prescribed format and copy thereof should be furnished to this Ministry.
- v) If any capital assets created in the CTTC, Bhubaneswar, DC (MSME) will be the sole proprietor of the same. Assets acquired wholly or substantially out of Government Grant shall not be disposed of without obtaining the prior approval of the sanctioning authority of Grantin-aid.
  - vi) The accounts of CTTC, Bhubaneswar shall be open for inspection by the sanctioning authority and audit, both by the Controller & Auditor General of India under the provision of C&AG (DPC) Act, 1971 in accordance with the provisions laid down in Section 14 of the C&AG (DPC 1971) as amended from time to time and Internal Audit party of the Principal Accounts Office of the Ministry of Micro, Small & Medium Enterprises (MSME), whenever it is called upon to do so.
- vii) The grantee shall submit the Utilization Certificate in the prescribed form GFR-12 duly signed by the Head of the Institution/ Grantee latest by 31.03.2023. The utilization certificate in respect of grants should also disclose whether the specified, quantified and qualitative targets that should have been reached against the amount utilized were in fact reached, and if not, the reasons therefor furnished by concerned HI.
- viii) CTTC, Bhubaneswar shall furnish an Audited Statement of Accounts of the financial year before 30.04.2023 also indicating separately Activity-wise and Head-wise expenditure.
- ix) Grant-in-Aid shall be utilized subject to the Economy and other Instructions issued from time to time by the M/o Finance or by the Competent Authority.
  - x) CTTC, Bhubaneswar shall certify that the utilization certificates due for submission for the Grants-in-aid sanctioned in the previous year's containing all the relevant details under GFR 212(1) have been submitted to the satisfaction of the Ministry of MSME.
  - xi) CTTC, Bhubaneswar shall adhere to all the relevant provisions of GFR and any other instructions/ guidelines issued by the Government from time to time, while making procurement/ purchases of goods and services including compliance to GFR provisions in case of out-sourcing of services and engagement of consultants.
  - xii) CTTC, Bhubaneswar has been exempted from execution of the bond. CTTC, Bhubaneswar shall, however, furnish an undertaking that it will comply with all the terms and conditions stipulated in the sanction order.
  - xiii) CTTC, Bhubaneswar should send pre-receipted bill and undertaking to agree to the terms & condition of this sanction (in triplicate) to this Ministry for payment of the amount drawn against this sanction.

TKR College of Eagineering & Technology

xiv) In no case the grant released under this sanction will be utilized for any purpose other than those indicated in the sanction. The grantee shall not divert the grants and entrust execution of the Scheme or work concerned to another Institution or Organization and shall abide by the terms & conditions of the grant and follow/ adhere to all the relevant provisions of GFR regarding Grants in aid. If the grantee fails to utilize the grant for the purpose for which the same has been sanctioned or does not adhere to the terms & condition of Grant and GFR provisions, the grantee/Institution shall be required to refund the grant with interest @10% per annum, if any.

xv) CTTC, Bhubaneswar will send the detailed progress report of for fund utilized by HI

xvi) CTTC, Bhubaneswar may use the fund as prescribed in the Scheme guidelines of Incubation component of MSME Innovative Scheme relating to development of ideas. The expenditure under the sanction is maximum, saving if any, will be surrendered to the Govt. of India.

xvii) The grantee institution shall not utilize the interest earned if any on the recurring/non-recurring grants-in-aid released to the institution for any purpose. The interest earned shall be indicated in UC which can be either adjusted in next release or to be refunded to Go I after grants-in-aid sanctioned is utilized.

### 4. Roles and Responsibilities of Host Institutes:

- The expenditure shall be incurred towards Technology related Expenditure towards machine usage charges, Electricity charges, Procurement of raw material, testing/Calibration charges, other charges essential for development of idea, charges for mentor/handholding supporting team Travelling Expenses or any other item not covered as above may be allowed as per need for development of the idea. The main activities includes nurturing of innovative business ideas (new/indigenous technology, processes, products, procedures, etc.), with the expected outcome of it being commercialized into an enterprise.
- The terms and conditions governing the grant will be as per undertaking executed to Government by the HIs on MIS portal. The amount released as 1st installment will be utilized in a manner that Proof of Concept (POC) of project/idea is made. The Host Institution shall maintain separate accounts of the funds received and expenditure incurred on various activities. Further, the HI would submit Annual Accounts, Audited expenditure Statement and Utilization Certificate to the Government. In case of mis-utilisation or diversion of grant sanctioned under the scheme, the HI shall be liable to refund to the President of India the whole or a part amount of the grant with interest @ of 10 % per annum thereon. Further, The Host Institution shall not utilize the interest earned on the recurring / non recurring grants -in -aid released to the institution for any purpose. The interest earned shall be indicated in UC which can be either adjusted in next release or to be refunded to GOI after grants -in-aid sanctioned is utilized.
- The time limit for Completion of ideas through Host institute is preferably one year until and unless some valid justification is given for extension of the time limit The Executive Head shall submit Quarterly Progress Report of the Business Incubator to this office. The consolidated report on the final outcome of such incubation along with the report of mentor/guide about the quality of the work done, its cost effectiveness, tangible gains (quantitative) likely to be achieved, etc., is also to be submitted immediately after completion of the work.

संप्रात निर्देशका / Joint Director भारत संस्कार / Govt. of India राह्य, लामु एवं क्यम भारतस्य शिक्रम of More, Small है कि विकास स्विक्तास्य भारति आपूर्व (तु स एवं न स्वत) का कार्यास्य Office of me for Construction (1)

KESH KUMAR

Principal

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- iv) Host Institutes may use the fund as prescribed in the Scheme guidelines of Incubation component of MSME Innovative Scheme relating to development of ideas. The expenditure under the sanction is maximum, saving if any, will be surrendered to the Govt. of India.
- v) In addition to the above, the HI will have to abide by the terms & condition as given in the detailed guidelines of the scheme. Also, the office of DC (MSME) may lay down any other condition to be followed by HI as and when required.
- vi) The expenditure incurred by the institutions shall be open to inspection by the sanctioning authority/ CAG/Chief Controller of Account (CCA), Ministry of Micro, Small & Medium Enterprises.
- vii) The HIs shall certify that it has not obtained or applied for grants for the same purpose or activities from any other Ministry or Department of Government of India or the State Government.
- 5. Noted at Serial No. 03 in the Register of Grants.
- Sh. P.V Suresh Babu, DDO of the office of DC (MSME) will act as Drawing and Disbursing Officer for this sanction.
- 7. The progress of the scheme would be monitored by the PMAC, O/o DC (MSME).
- The expenditure involved is debitable to the Budget Allocation under Demand No. 68 Ministry of Micro, Small & Medium Enterprises (MSME) under Technology Up gradation and Quality Certification (MSME Champions Scheme) for FY 2022-23. Details are as under:

| (i)   | Major Head                            | 2851.00.102.95 | Village &Small Industries |
|-------|---------------------------------------|----------------|---------------------------|
| (ii)  | Object Head                           | 95.04.31       | GIA-G                     |
| (iii) | BE MSME CLCS-TUS<br>Champions Scheme) | 34.39 Cr.      | -                         |
| (iv)  | Present sanction/release              | 20.57 Cr.      | -                         |

9. The CNA bank details of the Central Tool Room & Training Centre, Bhubaneswar for making payment are as below:

| Name of the<br>CNA                           | Name of Bank<br>where A/c of Org.<br>Held |                                 | O           | MICR Code and<br>IFSC Code                  |
|--|---|---------------------------------|-------------|---|
| Central Tool<br>Room &<br>Training<br>Centre | State Bank of India                       | Infocity Branch,<br>Bhubaneswar | 41141047045 | MICR-751002030<br>IIFC NO. –<br>SBIN0010133 |

10. There is no pending UC with CTTC, Bhubaneswar under "MSME Innovative Scheme

11. This issues with the approval of Integrated Finance Wing vide their Dy. No. 64/2022-23/IFW-II dated 16.08.2022.

(Rakesh Kumar) Joint Director

Encl: As above.

Copy To,

राकेश कुमार/RAKESH KUMAR संयुक्त निर्देशक/Joint Director नार्यस स्थ्यनर/Govt. of India रहाना. कानु एवं मध्याम उदान मंत्राहरत त्रिकार प्रतिकार जिल्लाको है Medium Enterprises विकास आपूर्व (स. स. एवं य उदान) को कार्याहरू (स.स. एवं स.स. एवं य उदान) को कार्याहरू निर्माण पहल नई दिली-पाताश/Minnas Zaza Nie Breatton

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- General Manager, Central Tool Room & Training Centre, B-36, Chandaka Industrial Area Bhubaneswar-751024
- 2. The Drawing & Disbursing Officer, Office of DC (MSME), New Delhi.
- 3. B&A Section, Office of DC (MSME), Nirman Bhawan, New Delhi.
- 4. Budget Division, Office of DC (MSME), Nirman Bhavan, New Delhi.
- 5. Principal Director of Audit, Economic and Service Ministry, AGCR Building, IP Estate, New Delhi.
- 6. Under Secretary, IFW, Ministry of MSME, Nirman Bhavan, New Delhi.
- 7. PS to JS (AFI)/ PS to Director (T&P). Ministry of MSME, Udyog Bhawan, New Delhi.
- 8. SENET Division with the request to upload on DC (MSME) website.
- 9. All MSME -DFOs
- 10. Guard File.

(Rakesh Kumar)

राकेश कुमार/RAKESH Joint Director

संप्रका निर्माण / RANESH NUMBER
संप्रका निर्माण / Joint Director
भारता सरकार / Cort of India
भारता सरकार / Cort of India
भारता सरकार / Cort of India
भारता अस्तु पूर्व मूर्यम्म संद्राम नेवास्य
भारता संप्रकार संद्राम के अस्ति हा हार्यास्य
भारता संप्रकार (त. स. ए.स. काल) का कार्यास्य
प्रकार को India One. Commit. (MEME)
प्राणी सरम् महिली-पास्ति / (India State), Ilan Deli-INDIA

Principal

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|     |  |                       |                                |                                  | hardware<br>products  |        |              | a G          |        |
|-----|--|-----------------------|--------------------------------|----------------------------------|---|--------|--------------|--------------|--------|
| 141 | Jerusalem<br>College of<br>Engineering                         | Tamil<br>nadu         | Paramesw<br>ari                | Start Up<br>/Employe<br>d/Others | Multi-<br>Functional<br>Blind Stick for<br>Visually<br>Impaired<br>People                       | 1.500  | 1.275        | 0.225        | 0.893  |
| 142 | Indian Institute<br>of Technology<br>Indore                    | a<br>prades<br>h      | Bharadwaj                      | Entrepren<br>eurs/MSM<br>E       | CyberWarFare<br>Labs Initiative<br>for<br>CyberSecurity<br>Education<br>(CICE)                  | 15.000 | 12.750       | 2.250        | 8.925  |
| 143 | Sethu Institute<br>of Technology                               | Tamil<br>nadu         | Akilandes<br>wari V            | Start Up<br>/Employe<br>d/Others | Smart Assistive<br>Robot for<br>Hearing<br>Impaired<br>Children                                 | 15.000 | 12.750       | 2.250        | 8.925  |
| 144 | KPR Institute<br>of Engineering<br>and<br>Technology           | Tamil<br>nadu         | Imaya<br>Ganesh S              | Start Up<br>/Employe<br>d/Others | A drone using<br>Autodesk<br>Fusion 360<br>Software for<br>Disaster<br>Mitigation and<br>Relief | 11.040 | 9.384        | 1.656        | 6.569  |
| 145 | TKR College<br>of Engineering<br>and<br>Technology             | Telang<br>ana         | Boddukan<br>tiKarthik<br>Kumar | Student - 4                      | Smart<br>Wearables for<br>Rescuers And<br>Victims   | 8.000  | <b>8.000</b> | <b>0.000</b> | 5.600  |
| 146 | INDO Danish<br>Tool Room                                       | Jharkh<br>and         | Kapil<br>Suhane                | Entrepren<br>eurs/MSM<br>E       | Digitising the<br>Waste<br>Management<br>Supply Chain   | 13.500 | 11.475       | 2.025        | 8.033  |
| 147 | Sri Krishna<br>College of<br>Technology                        | Tamil<br>nadu         | D.Mohit<br>Kumar               | Student                          | Robotic arm<br>with sensing<br>and anti-drone<br>technology to<br>secure the<br>border          | 14.500 | 14.500       | 0.000        | 10.150 |
| 148 | Sri Krishna<br>College of<br>Technology                        | Tamil<br>nadu         | Vijayandr<br>ahari A P         | Student                          | Smart Vest for<br>Coal Mine<br>Workers  | 15.000 | 15.000       | 0.000        | 10.500 |
| 49  | M.Kumarasam<br>y College of<br>Engineering                     | Tamil<br>nadu         | Thulasima<br>ni V V            | Student                          | Smart Charger<br>with Charge<br>Monitoring<br>Capability  | 15.000 | 15.000       | 0.000        | 10.500 |
| 50  | Chalapathi<br>Institute of<br>Engineering<br>and<br>Technology | Andhra<br>prades<br>h | Gorantla<br>Vishnu<br>Sai      | Student                          | IoT based<br>Smart Water<br>Quality<br>Monitoring<br>System                                     | 8.000  | 8.000        | 0.000        | 5.600  |

| 120 | C C 11 1   | 11              | 1 1 .                             | C                                | 1  | Т      |             |        |       |
|-----|--|-----------------|-----------------------------------|----------------------------------|--|--------|-------------|--------|-------|
| 170 | Guru Gobind<br>Singh College<br>of Pharmacy                          | Haryan<br>a     | Ashwani<br>Kumar                  | Start Up<br>/Employe<br>d/Others | Laboratory condensor waste water recycling unit - recycling of the water and avoid unnecessary water wastage   | 7.000  | 5.950       | 1.050  | 4.165 |
| 171 | Association of<br>Lady<br>Entrepreneurs<br>Of India                  | Telang<br>ana   | NamrataD<br>hananjay<br>Deo       | Start Up<br>/Employe<br>d/Others | KAWAK - The Biodegradable Packaging-developed a biodegradable, organic and sustainable solution from agricultural waste that can replace Styrofoam in various applications | 20.000 | 11.050      | 8.950  | 7.735 |
| 172 | TKR College<br>of Engineering<br>and<br>Technology                   | Telang<br>ana   | Perike<br>Enosh                   | Employe d/Others                 | Unmanned surface vehicle for defense and civilian application - to built a vessel which will not come to the shore again which only transmit required by surveillance      | 20.000 | 12.750      | 7,250  | 8.925 |
| 173 | Haldia Institute<br>of Technology                                    | West<br>bengal  | Radharani<br>Das                  | Start Up<br>/Employe<br>d/Others | Production of SiO2 Nano Powder from Rice Husk (Crop Residue) for its Industrial Uses Waste to Wealth   | 15.000 | 12.750      | 2.250  | 8.925 |
| 174 | Marathwada<br>Accelerator for<br>Growth and<br>Incubation<br>Council | Mahara<br>shtra | Dixit<br>Mihir<br>Pareshku<br>mar | Entrepren<br>eurs/MSM<br>E       | Infrared Pyrolysis Process- converts any type of solid waste directly to non toxic air.  | 19.970 | 8.500<br>Nd | 11.470 | 5.950 |