



## **FACULTY ON-GOING RESEARCH AND ANALYSIS (FORAY) SCHEME**

### **Call for Research Proposals for Academic Year 2022-23**

Research and Development activities form a very vital component in building the strength of the college. It is important for faculty to be engaged in research and development activities as part of their continuous learning program. The R&D activities of the college are directed towards facilitating advanced and multidisciplinary research in topics of current interest worldwide as well as to expose the students to the research world and thus helping them to learn. In light of this vision, the R&D Board of the college is coordinating various research activities at the central level.

In this direction, the college has initiated FORAY – Faculty On-going Research and Analysis – scheme as an opportunity for the faculty of the institution, either individually or in groups, to conceive, prepare and present research proposals in the prescribed format enclosed for the prospective funding under this scheme.

#### **Procedure:**

- Proposals shall be submitted to the Dean (R&D). The proposals will be scrutinized for completeness by the Dean (R&D) and all incomplete proposals or those lacking proper justification will be returned to the concerned faculty or investigating team for re-drafting.
- Proposals that clear the initial screening will be scheduled for review by the Central Project Review Committee (CPRC). The concerned faculty or investigating team shall make a presentation before the CPRC consisting of Principal, Dean (R&D), Head of the Department, 4 senior faculty members / subject experts nominated by the Dean (R&D).
- The project grant will carry a maximum amount of Rs 5 lakhs to support the research as proposed by the faculty member or investigating team and approved by the CPRC. In case of deserving cases a higher amount may be approved by the CPRC. The decision of the CPRC will be final and binding. Preference will be given to inter-disciplinary research followed by collaborative research and lastly individual research.

#### **Project Duration:**

The project shall be tenable for a maximum duration of One (1) year/ 12 Months

**Last Date for Submission of Proposals:** July 05, 2022

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### **Project Implementation Guidelines**

1. The grant being released is for the specified research project and should be spent exclusively only for the said project. The investigating team shall submit the acknowledgement form for receipt of the grant in the specified format.
2. The investigating team shall maintain separate documentation and account statements for the activities and purchases carried out during the course of the project from the fund received for the same.
3. The grant shall be utilized only for the specific heads for which the sanction has been made and shall not be utilized for any other head. If there is a likelihood of the budget head exceeding the sanctioned amount, prior permission needs to be taken from the Principal for readjustment of budget from other sanctioned heads. In no circumstance shall the budget exceed the overall sanctioned amount.
4. The PI shall settle the accounts of the project immediately after the completion of the project.
5. The date of commencement of the project shall be the date of issue of the sanction order.
6. Any un-spent balance out of the amount sanctioned shall be returned to the institution after the completion of the project.
7. The following documents shall be submitted to the Dean (R&D) after 6 months of start of the project as well as at the end of the project in the specified format:
  - i) Statement of Expenditure from date of start till date of submission
  - ii) Utilisation Certificate
8. Periodic reviews will be conducted for monitoring the progress of the project. The PI along with his team is required to present the status of the work once every 3 months to assess progress vis-à-vis their stated project plan. The presentation shall be limited to 10 minutes covering topics as listed in the Project Completion Report.
9. Once the project is completed, the PI shall submit a Project Completion Report in the specified format giving full details of the work carried out, papers published and facilities developed.

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10. It shall be the full responsibility of the PI to ensure that the project is completed according to the proposal submitted and within the stipulated one year time. In the event of the PI leaving the institution during the project period, the Co-PI shall take over the responsibility for execution of the project.
11. Equipment or facilities established as a result of the grant shall be suitably identified or labelled as funded under 'FORAY'.

  
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### **PAC Meeting Held on 17-07-2022: Recommendations and Resolutions**

Review was held on 17-07-2022 for proposals received under FORAY for the academic year 2022-23. A total of 12 proposals were received across departments as listed below.

<b>S. No</b>	<b>Title of Proposal</b>	<b>Dept</b>
1.	Topographical and detailed survey of a RGM CET	Civil
2.	All glass single distillation unit with boiler, condenser quartz heater with capacity: 2.5 liters	Civil
3.	Development of new porphyrin based metal organic frameworks as nanoreactors for carbon dioxide and methane gas sequestration and their in situ chemical conversion into value added products	Chemistry
4.	Sustainable green synthesis of ceramic nanoparticles by using leaves extract for magnetic and optical applications	Chemistry
5.	Identification of Road Traffic Signs Using YOLO Models with Image Flip Considerations.	CSE (DS)
6.	Natural convection heat transfer analysis of nanoliquid inside a closed chamber filled with carbon nanotubes	Maths
7.	Hybrid thermal enhancement of latent heat energy storage system by utilizing Nano-encapsulated phase change materials	Maths
8.	A Study of Public Bank Employees resistance to change with special reference to the district of Kurnool region	MBA
9.	A Study on Investment Behavior of individual investor with reference Kadapa region of Andhra Pradesh.	MBA
10.	Performance Analysis of Full Adder using Ganged CMOS Threshold Element with Different Technologies	ECE
11.	Improved performance of on-chip data interconnects VLSI Coder circuit approach	ECE
12.	Design and fabrication of High Speed Nano-Transistor: A Solution for Scaling Problems in MOS Technology	ECE
13.	Ternary logic full adder circuit using 3x1 multiplexer	ECE

The Program Advisory Committee (PAC) comprising the members reviewed the proposals:

- |                                 |                                    |
|---------------------------------|------------------------------------|
| 1. Mr. K. Tippa Reddy           | DGM, SPY Agro Industries, Nandyal  |
| 2. Mr. P. Jitendra Kumar        | MD, Entellous IoT Labs, Hyderabad. |
| 3. Dr. G. Ramachandra Reddy     | Professor, VIT - Vellore.          |
| 4. 5. Dr. T. Jayachandra Prasad | Principal, RGM CET                 |
| 5. Dr. B. Rami Reddy            | Dean, Student affairs              |
| 6. Dr. B. B. Prahalada Rao      | Dean (R&D)                         |

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**2022-23**

The committee places on record its appreciation to all the faculty members who submitted and presented their proposals at the PAC meeting and is pleased to recommend for approval the following proposals and sanction of budget as indicated.

S.No	Title of Proposal	PI	Dept	Order No	Budget sanction Rs.
1.	Topographical and detailed survey of a RGM CET	T Raghavendra, Mr. D V Prudhvi Raj, Mr. K Bharath Kumar	Civil	RGM/FORAY/ 2022-23/01	1,16,770.00
2.	Advanced Topologies of Multilevel Inverters	Dr. V. Naga Bhaskar Reddy, Dr. A. Suresh Kumar, Mr. Y. Vijaya Suresh	EEE	RGM/FORAY/ 2022-23/02	1,70,000.00
3.	Ternary logic full adder circuit using 3x1 multiplexer	Dr. P. V. Gopi Krishna Rao Dr. R. Hanuma Naik Mr. Y, Madhusudhana Reddy Mr. J. Leela Mahendra Kumar	ECE	RGM/FORAY/ 2022-23/03	8,00,000.00
4.	Performance Analysis of Full Adder using Ganged CMOS Threshold Element with Different Technologies	Dr. M. Chennakesavulu Dr. N.Ramanjaneyulu Dr. C. Venkataiah Dr. Anchula Sathish	ECE	RGM/FORAY/ 2022-23/04	
<b>TOTAL (Rs)</b>					<b>10,86,770.00</b>

The budget sanction therein is to cover the activities of this project only. No additional budgetary allocation will be made.

Based on the recommendations of the PAC, the institution is pleased to release the sanction orders for the above mentioned proposals in response to the call for proposals for the academic year 2022-23. Other proposals, which were not taken up for consideration may be revised and resubmitted for possible funding for the next academic year.

Signed

Dean (R&D)

Dean (Student affairs)

Principal

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## FACULTY ON.GOING RESEARCH AND ANALYSIS (FORAY) SCHEME

2022-23

### Sanction Order

<b>Order No</b>	RGM/FORAY/2022-23/01	30-07-2022
<b>Title of the Project</b>	Topographical and detailed survey of a RGM CET	
<b>PI</b>	Mr. T Raghavendra	
<b>Co-PI</b>	Mr. D V Prudhvi Raj Mr. K Bharath Kumar	

Sanction is accorded for implementation of the above mentioned project at a total cost of Rs. 1,16,770/- (Rupees one lakh sixteen thousand seven hundred and seventy Only) for a duration of 12 months and also to release an amount of Rs. 1,16,770/- (Rupees one lakh sixteen thousand seven hundred and seventy Only) to the Principal Investigator. The items of expenditure, for which the total allocation of Rs. 1,16,770/- has been approved, are given below:


S.No	Details of Equipment	Amount (Rs.)
<b>Equipment</b>		
1	Electronic Theodolite-modelleta02	63,000.00
2	Standard Vernier Theodolite	18,000.00
3	Aluminum Levelling staff Folding 4 MTRS	1,800.00
4	All glass single distillation unit with boiler, condenser quartz heater with capacity:2.5 litres	20,470.00
5	Miscellaneous	5,500.00
<b>Contingency</b>		8,000.00
<b>TOTAL</b>		<b>1,16,770.00</b>

Sanction of the grant is subject to the conditions as specified in the guidelines for implementation of FORAY research proposals.

The accounts of project shall be open to inspection by sanctioning authority/audit whenever the PI is called upon to do so.

The PI will furnish the Utilization Certificate and statement of expenditure pertaining to the grant immediately after the end of the project duration. Progress report needs to be furnished every six months.



  
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**2022-23**

**Sanction Order**

<b>Order No</b>	RGM/FORAY/2022-23/02	30-07-2022
<b>Title of the Project</b>	Advanced Topologies of Multilevel Inverters	
<b>PI</b>	Dr. V. Naga Bhaskar Reddy	
<b>Co-PI</b>	1. Dr. A. Suresh Kumar 2. Mr. Y. Vijaya Suresh	

Sanction is accorded for implementation of the above mentioned project at a total cost of Rs. 1, 70,000/- (Rupees one lakh seventy thousand Only) for a duration of 12 months and also to release an amount of Rs. 1, 70,000/- (Rupees one lakh seventy thousand Only) to the Principal Investigator. The items of expenditure, for which the total allocation of Rs. Rs. 1, 70,000/- has been approved, are given below:

S.No	Details of Equipment	Amount (Rs.)
<b>Equipment</b>		
1	RT 10 KVA UPS 1PH/ 1PH MAKE DELTA	90,000.00
2	26 AH BATTERIES SMF	50,000.00
3	RACK & LINKS	5,000.00
<b>Contingency</b>		25,000.00
<b>TOTAL</b>		<b>1,70,000.00</b>

Sanction of the grant is subject to the conditions as specified in the guidelines for implementation of FORAY research proposals.

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### Sanction Order

<b>Order No</b>	RGM/FORAY/2022-23/03	30-07-2022
<b>Title of the Project</b>	Ternary logic full adder circuit using 3x1 multiplexer	
<b>PI</b>	Dr. P. V. Gopi Krishna Rao	
<b>Co-PI</b>	1. Dr. R. Hanuma Naik 2. Mr. Y. Madhusudhana Reddy 3. Mr. J. Leela Mahendra Kumar	

Sanction is accorded for implementation of the above mentioned project at a total cost of Rs. 8,00,000/- (Rupees Eight lakhs Only) for a duration of 12 months and also to release an amount of Rs. 8,00,000/- (Rupees Eight lakhs Only) to the Principal Investigator. The items of expenditure, for which the total allocation of Rs. Rs. 8,00,000/- has been approved, are given below:

S.No	Details of Equipment	Amount (Rs.)
<b>Equipment</b>		
1	Cadence VLSI Design Tool	7,75,000.00
<b>Contingency</b>		25,000.00
<b>TOTAL</b>		<b>8,00,000.00</b>

**Note:** Cadence VLSI Design Tool software is sanctioned for two projects inclusive of this project order No. RGM/FORAY/2022-23/03 Dt:30-07-2022. The other projects orders is RGM/FORAY/2022-23/04 Dt: Dt:30-07-2022.

Sanction of the grant is subject to the conditions as specified in the guidelines for implementation of FORAY research proposals.

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**2022-23**

**Sanction Order**

<b>Order No</b>	RGM/FORAY/2022-23/04	30-07-2022
<b>Title of the Project</b>	Performance Analysis of Full Adder using Ganged CMOS Threshold Element with Different Technologies	
<b>PI</b>	Dr. M. Chennakesavulu	
<b>Co-PI</b>	1. Dr. N.Ramanjaneyulu 2. Dr. C. Venkataiah 3. Dr. Anchula Sathish	

Sanction is accorded for implementation of the above mentioned project at a total cost of Rs. 8,00,000/- (Rupees Eight lakhs Only) for a duration of 12 months and also to release an amount of Rs. 8,00,000/- (Rupees Eight lakhs Only) to the Principal Investigator. The items of expenditure, for which the total allocation of Rs. Rs. 8,00,000/- has been approved, are given below:


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<b>Equipment</b>		
1	Cadence VLSI Design Tool	7,75,000.00
<b>Contingency</b>		25,000.00
<b>TOTAL</b>		<b>8,00,000.00</b>

**Note:** Cadence VLSI Design Tool software is sanctioned for three projects inclusive of this project order No. RGM/FORAY/2022-23/04 Dt:30-07-2022. The other project order is RGM/FORAY/2022-23/03 Dt: Dt:30-07-2022.

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