

*Research*

**Summary**

| <b>Details</b>       |                                                                                                                                                                                                                                                                                                                                                                                      | <b>Weightage</b> |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Criterion</b>     | 6 - Governance, Leadership and Management                                                                                                                                                                                                                                                                                                                                            | 100              |
| <b>Key Indicator</b> | 6.1 Institutional Vision and Leadership                                                                                                                                                                                                                                                                                                                                              | 15               |
| <b>Metric</b>        | 6.1.1<br>The Institutional governance and leadership are in accordance with Vision and mission of the institution and it is visible in various institutional practices such as NEP implementation, sustained institutional growth, and de-centralization, participation in the institutional governance and in their Short term / Long term institutional perspective plan.<br>(QLM) | 15               |

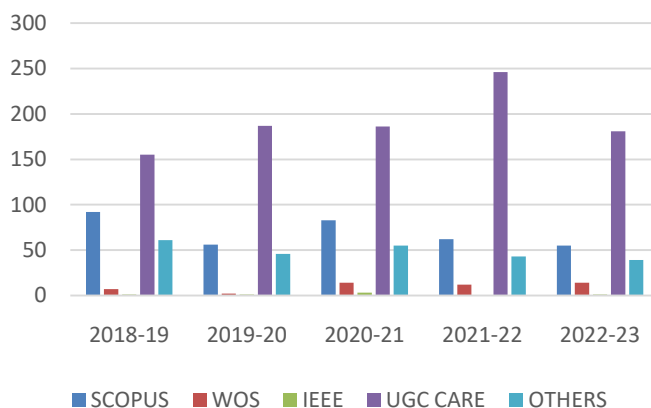
JSS Science and Technology University is realising its Vision through extensive research work, addressing relevant issues having significance within the context of the field. JSS Science and Technology University has established well equipped laboratories for research work. The University has a good number of research projects and patents to its credit.

JSS Science and Technology University is conducting extensive research, which has produced a good number of publications in reputable peer-reviewed journals, improved knowledge, technological innovation, academic excellence, global competitiveness, problem solving and challenge addressing, faculty development and expertise, public outreach and engagement, funding and resources, professional and economic development, and contributions to disciplinary fields.

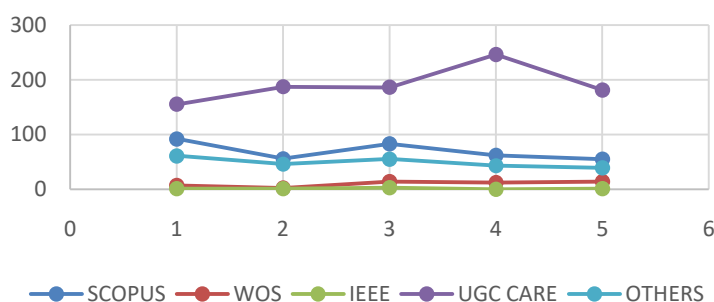
| <b>Calendar Year / Category</b> | <b>2018-19</b> | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|
| SCOPUS                          | 92             | 56             | 83             | 62             | 55             |
| WOS                             | 7              | 2              | 14             | 12             | 14             |
| IEEE                            | 1              | 1              | 3              | 0              | 1              |
| UGC CARE                        | 155            | 187            | 186            | 246            | 181            |
| OTHERS                          | 61             | 46             | 55             | 43             | 39             |
| <b>TOTAL</b>                    | <b>316</b>     | <b>292</b>     | <b>341</b>     | <b>363</b>     | <b>290</b>     |



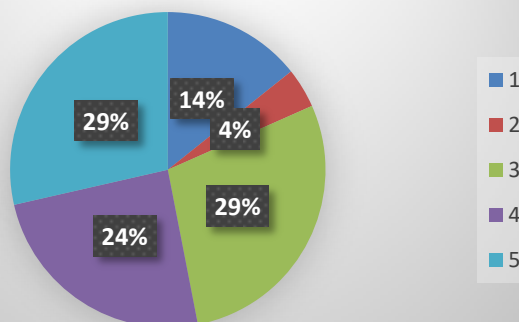
### NO. OF PUBLICATIONS IN LAST FIVE CALENDAR YEARS



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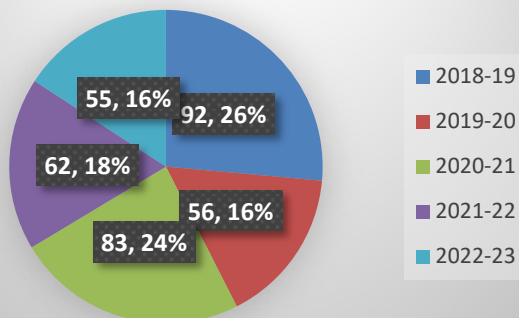


### WOS

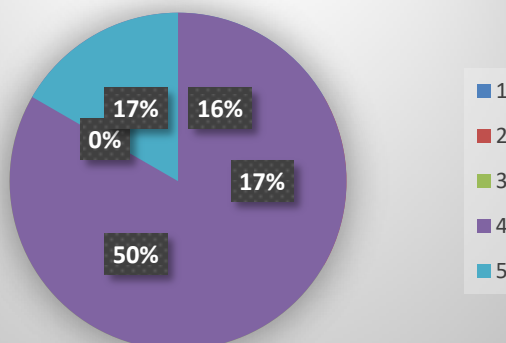




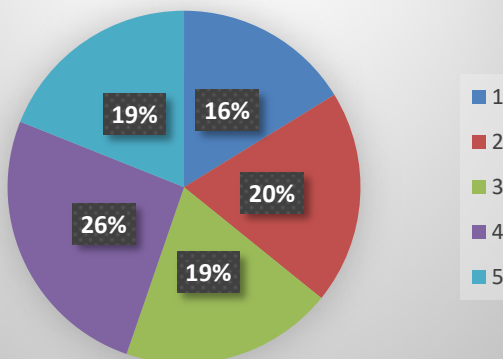
### SCOPUS

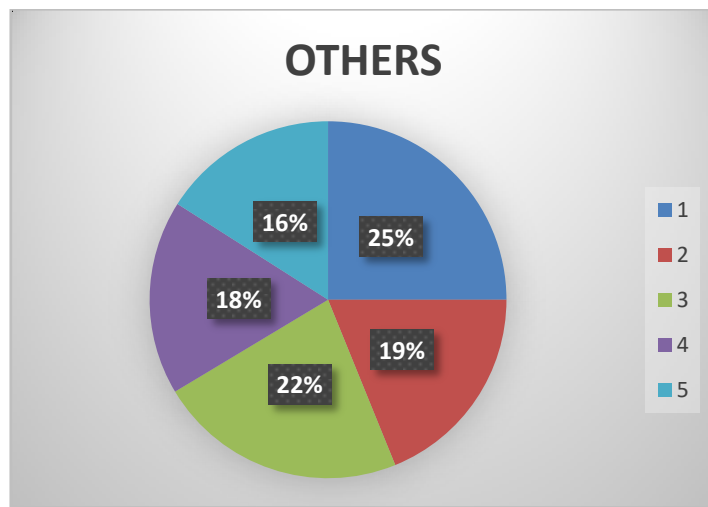


### IEEE



### UGC CARE





## *List of projects*

## Details of Funded/sponsored Projects

**Period: 01.05.2022- 31.10.2022**

| S. No. | Project Title                                                                                                                                                                          | Agency                | Sanctioned amount |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------|
| 1      | Pyridopyrimidine coupled piperazine (PPP): Emerging new class of drug to treat Multidrug resistant Bacteria.                                                                           | DST SERB              | Rs. 32,72,000     |
| 2      | SATHI - Centre for characterization of advanced functional materials-JSSSTU                                                                                                            | DST SATHI             | Rs. 45,00,00,000  |
| 3      | Development of biodegradable wound dressing material from agrowaste: Low-Cost, promoting skin regeneration and scar remodeling.                                                        | DST SERB              | Rs. 33,62,000     |
| 4      | Design and synthesis of Novel Chromene Appended piperazine (CAP) for therapeutic applications- Pharmaceutical tenacious chemical moiety.                                               | DST SERB              | Rs. 22,32,000     |
| 5      | Development of low cost biodegradable wound dressing material from agrowaste.                                                                                                          | KSCST                 | Rs. 4,75,000      |
| 6      | Development of electrochemical bioprobe for the biomarker detection of dengue virus.                                                                                                   | KSCST                 | Rs. 4,50,000      |
| 7      | Green to green: Soil based remedy to treat silk dyeing effluents.                                                                                                                      | KSCST                 | Rs. 4,18,000      |
| 8      | Development of eco-friendly pectin based nanocomposite film for food packaging applications.                                                                                           | KSCST                 | Rs.5,00,000       |
| 9      | Exploring graphene nanoribbon-4d transition metal oxide hetro junctions as bi-functional catalysts in electrochemical detection and photocatalytic degradation of antibiotics in water | DST SERB              | Rs. 30,00,000     |
| 10     | Design of Non-centro symmetric molecular materials by crystal                                                                                                                          | UGC – Dr. D S Kothari | Rs. 10,00,000     |

*[Signature]*  
Dean (Research)

JSS Science and Technology University  
Technical Institutions Campus  
Mysore - 570 006, Karnataka

|              |                                                                                                                                                                                                                                  |                |                         |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------|
|              | engineering approach for non linear optic systems                                                                                                                                                                                | Research Grant |                         |
| 11           | Solid-form informatics and crystal engineering approach for structure based drug design                                                                                                                                          | DST SERB SURE  | Rs. 27,93,000           |
| 12           | Development of portable system for acquisition of infrared thermal images and vital body parameters for health monitoring of diabetic patients and analysis using artificial intelligence(AI) and machine learning (ML) approach | DST SERB       | Rs. 30,00,000           |
| 13           | Stabilized Foundry Sand Blocks                                                                                                                                                                                                   | KSCST          | Rs. 2,36,600            |
| 14           | Design and Development of Contact-Free Devices for Hospitals to Prevent the Spread of COVID-19 like Infectious Diseases in the District of Mysuru                                                                                | KSCST          | Rs. 3,80,000            |
| 15           | Application of Machine Learning for Automatic Diagnosis and Prognosis of Haematological Disorders                                                                                                                                | KSCST          | Rs. 5,00,000            |
| 16           | Advanced ICT Applications for Library Management System                                                                                                                                                                          | RRRLF, Kolkata | Rs. 2,50,000            |
| 17           | Academic Digital Library Impact on best practices in R&D Activities"                                                                                                                                                             | RRRLF, Kolkata | Rs. 2,50,000            |
| 18           | Role and importance of Libraries in Ranking of Institutions                                                                                                                                                                      | RRRLF, Kolkata | Rs. 2,50,000            |
| 19           | Underground Vegetables Harvesting Robots                                                                                                                                                                                         | KSCST          | Rs. 5,00,000            |
| 20           | Nanoscale engineering enables for the stable and efficient perovskite photovoltaics .                                                                                                                                            | KSCST          | Rs. 4,80,000            |
| 21           | Synthesis of multiferroic composite through a solid state transformation of metastable oxide                                                                                                                                     | DST-JSPS       | Rs. 9,88,000            |
| 22           | Conversion of single use plastics into value added products.                                                                                                                                                                     | SERB           | Rs. 7,80,000            |
| 23           | Halide Perovskite/Polymer hybrid Nanocomposites for Display and Photovoltaic Applications                                                                                                                                        | SERB           | Rs. 21,20,400           |
| 24           | Performance studies on Bottom ash based concrete for sustainable development of high strength paver blocks for rural road applications.                                                                                          | SERB           | Rs. 28,75,400           |
| <b>Total</b> |                                                                                                                                                                                                                                  |                | <b>Rs. 48,01,12,400</b> |

**Period: 01.11.2022- 30.04.2023**

| Sl. No.      | Project Title                                                                                                                         | Agency           | Sanctioned amount (in Lakhs) |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------|
| 1            | "PHE Sector Development Scheme" on "Grey Water Treatment using Nano-Adsorbent"                                                        | CPHEEO           | 30.50                        |
| 2            | Thin film conducting hybrid nanocomposites for EMI Shielding applications                                                             | SERB-CRG         | 29.80                        |
| 3            | Analysis of Flexural and Shear Behaviour of Concrete Encased Steel Beams Strengthened using Carbon Fiber Reinforced Polymer.          | DST (SERB)       | 28.64                        |
| 4            | "PHE Sector Development Scheme" on "Providing Nature-Based Solution to treat the Grey Water"                                          | CPHEEO           | 28.50                        |
| 5            | "Development of Treatment Technology for color removal from Bio Digester Effluent of Distillery Wastewater"                           | CPHEEO           | 25.70                        |
| 6            | Conversion of Municipal Solid Plastic Waste Into 3D Printable Filaments for Value Added Products                                      | SERB (POWER)     | 14.50                        |
| 7            | Non invasive human body glucose monitoring device for Diabetic.                                                                       | K-Teck - NIAN    | 3.10                         |
| 8            | Experimental study for Optimum Use of Municipal Solid Waste landfill and Recycled Face mask Fabrics in Concrete Pavement Construction | SERB Power grant | 2.80                         |
| 9            | Establishment of SATHI (Sophisticated Analytical and Technical Help Institute) at JSS STU in collaboration with VVCE Mysuru           | DST SATHI        | 8000.00                      |
| 10           |                                                                                                                                       |                  |                              |
| <b>Total</b> |                                                                                                                                       |                  | <b>8163.54</b>               |



  
**Dean (Research)**  
 JSS Science and Technology University  
 JSS Technical Institutions Campus  
 Mysore - 570 006, Karnataka

### Major Projects Sanctioned

| Sl. No.      | Project Title                                                                                                                                                                                                 | Agency                                                                     | Project Cost (in Lakhs) |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------|
| 1            | "Comparative study on Complete Cost Analysis of Intermittent V/s. 24X7 Water supply system for Urban Areas"                                                                                                   | CPHEEO                                                                     | 40.27                   |
| 2            | Establishment of Centre for Facile Synthesis of Metal Complexes and Study for Interaction with Biomolecules                                                                                                   | VGST - CISEE                                                               | 30.00                   |
| 3            | Development and characterization of Sustainable Food Packaging Materials based on Functional Polymer Nanocomposites                                                                                           | SERB – TARE (Teachers Associateship for Research Excellence)               | 20.00                   |
| 4            | Development of Nano cellulose Reinforced Green Composites for Biomedical Applications                                                                                                                         | SERB – EMEQ (Empowerment & Equity Opportunities for Excellence in Science) | 14.65                   |
| 5            | Machine Learning based smart mobile application for detecting clinical dental fluorosis.                                                                                                                      | DBT                                                                        | 10.00                   |
| 6            | Development of Ayurveda based solution for home care and health care needs                                                                                                                                    | DST-NIDHI-PRAYAS-SJCE-STEP                                                 | 9.50                    |
| 7            | ATAL FDP on "Research Avenues in Biometrics Using Low-Cost Devices"                                                                                                                                           | AICTE - ATAL                                                               | 3.00                    |
| 8            | Projects sanctioned for 4 batches of ECE, 2 batches of Civil Engg, 4 batches of CTM, 1 batch of EEE, 1 batch of ISE, 1 batch of Mechanical Engg & 1 batch of M.Tech (Structural Engg. ) Students (Total – 14) | KSCST                                                                      | 0.77                    |
| 9            | Development of Efficient model for Person Identification using Occluded Faces                                                                                                                                 | KSCST                                                                      | 5.00                    |
| <b>Total</b> |                                                                                                                                                                                                               |                                                                            | <b>133.19</b>           |

## ***List of patents***

| Patent Sanctioned Details |                            |                                    |                                                                                                                                |                                                                                |              |
|---------------------------|----------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------|
| S.No.                     | Name of Inventors          | Domain Area                        | Title                                                                                                                          | Application No./Granted Patent No.                                             | Granted Year |
| 1                         | Dr. Ramya M V              | Electronics and Communication Engg | Method And System For Performing Experiments In A R                                                                            | 201941041529/ 365876                                                           | 2019         |
| 2                         | Mr. Parashivamurthy        | Computer Science and Engg          | A SYSTEM MONITORING FOR HARVESTING OF FARMING USING DRONE TECHNOLOGY                                                           | 2020101843                                                                     | Sep/20       |
| 3                         | Dr. M H Sidram             | Electrical and Electronics Engg    | IOT based Virtual Students TF Plus Mini Lidar Sensor                                                                           | 2021100210                                                                     | 2021         |
| 4                         | Dr. S K Niranjan           | Computer Science and Engg          | An artificial intelligence enabled cryptography based financial tool                                                           | 2021101470                                                                     | 2021         |
| 5                         | Dr. S K Niranjan           | Computer Science and Engg          | cloud data performance improved using machine learning and deep learning programming                                           | 2021103769                                                                     | 2021         |
| 6                         | Siddaramaiah et al         | Polymer Sceince and Technology     | Multifunctional Polymer Nanocomposite Thick Film Based Optical Band Pass Filter and Photovoltaic Converter (material),         | Application number 201841009671; (project number IP-3570-IN-17181077-NPA-2019, | Sep/22       |
| 7                         | Dr.Mohan N                 | Electrical and Electronics Engg    | A BATTERY VEHICLE CHARGING STATION                                                                                             | Design No. : 349473-001<br>Certificate No. 120727                              | Dec/22       |
| 8                         | Dr. Umesh K K              | MCA                                | Smart Energy consumption Monitoring Meter                                                                                      | Design No. : 362254-001                                                        | Jun/22       |
| 9                         | Rajeev Kumar, Dr. S        | Electronics and Communication Engg | IOT BASED ROBOT FOR SANITIZATION                                                                                               | 371473-001                                                                     | Jan/23       |
| 10                        | Dr. Neha Sharma, D         |                                    | Novel IoT Based Digital Cold Shaking Incubator                                                                                 | 379748-001                                                                     | May/23       |
| 11                        | Dr. Mallikarjun Arac       | Biotechnology                      | A Method of Processing Leaves of Memecylon Malabaricum With Antiangiogenic, Antioxidant and Proapoptotic Activity              | 201841022650                                                                   | Dec/23       |
| 12                        | Dr. Manjunath Arad         | MCA                                | Two Dimensional Object Detection Device based on shape contour                                                                 | 201841030294                                                                   | Jun/23       |
| 13                        | Mallikarjuna Swamy         | EIE                                | A Portable IR Thermal and Ultrasound Based Diogno-therapeutic Integrated Device for Effective Lower Back Pain Management       | Design No. : 391633-001                                                        | Sep/23       |
| 14                        | Mallikarjuna Swamy         |                                    | Flexion Strain Sensor                                                                                                          | Design No. : 382292-001                                                        | Aug/23       |
| 15                        | Dr. Srinath S              | CSE                                | System and Method of Creating A Hand Gesture Benchmark Image Data Sets for Recognizing and Interpreting American Sing Language | 201941027784                                                                   | Oct/23       |
| 16                        | Dr. Shivaprasad            | ISE                                | Solar Energy Based waste Management System and Method with Timely Alerts                                                       | 201941036846                                                                   | Dec/23       |
| 17                        | Dr. Anil Kumar             | CSE                                | Solar and Wind Hybrid Energy Generation Apparatus                                                                              | Design No. : 393344-001                                                        | Nov/23       |
| 18                        | Dr. S K Niranjan           | MCA                                | IOT Enabled File Storage Racks                                                                                                 | Design No. : 379414-001                                                        | May/23       |
| 19                        | Dr. Mallikarjuna Swamy M S | EIE                                | Thermal Camera For Detecting Rheumatoid Arthritis                                                                              | Design No. : 382293-001                                                        | May/23       |
| 20                        | Dr. Shashidhar Rudregowda  | ECE                                | IOT Enabled Signature Not Verified Printer                                                                                     | Design No. : 386573-001                                                        | Aug/23       |
| 21                        | Dr. Shashidhar Rudregowda  |                                    | Portable chest X-ray for accurate detection of respiratory diseases                                                            | Design No. : 6309594                                                           | Sep/23       |