Question 19. Has your organization collaborated with Government research / technology linked programmes specific on Women in STEM workforce?

Yes, At JSS STU, the advancement and inclusion of women in Science, Technology, Engineering, and Mathematics (STEM) is not only a commitment but a core institutional priority. The university has consistently engaged in government supported research and technology linked programmes that directly or indirectly strengthen the participation, leadership, and visibility of women in STEM fields. Through active collaboration with central and state government research initiatives, JSS STU ensures that women faculty and scholars are given equal opportunities to lead projects, contribute to cutting-edge research, and influence impactful socio-technological change. Below is an account of significant collaborations and projects that highlight the integration of women in STEM focused government research programmes.

Research Collaborations

Indian Institute of Technology Madras (IITM)

One of the remarkable collaborations has been with IIT Madras in the domain of environmental science and atmospheric studies, a field where women researchers at JSS STU have made substantial contributions. The projects under this collaboration include Characterizing visibility in a contrasting climate of Indian cities aimed at understanding the role of environmental factors on visibility and air quality across diverse climatic zones. Source apportionment of ambient fine particle size distribution using Positive Matrix Factorisation (PMF) and Conditional Bivariate Probability Function (CBPF) in a coastal urban area employing advanced statistical and computational modelling to identify pollution sources and their relative contributions. Regression modelling for predicting visibility in a tropical urban environment developing predictive models that can aid in urban planning and public health interventions. These projects were carried out in partnership with national level research experts, enabling women faculty at JSS STU to collaborate with premier institutions while enhancing their technical expertise in advanced modelling, statistical analysis, and environmental monitoring.

Government of Karnataka's New Age Incubation Network (NAIN)

The New Age Incubation Network (NAIN), a flagship initiative by the Government of Karnataka, aims to promote Tier-II cities as emerging business hubs by nurturing local entrepreneurial talent. At JSS STU, the NAIN Centre is headed by a woman faculty, demonstrating the university's commitment to women's leadership in innovation and entrepreneurship. Through NAIN, students, researchers, and budding entrepreneurs especially women are encouraged to develop technology driven solutions to real-world challenges.

The NAIN programme provides:

- Access to seed funding for innovative ideas.
- Mentorship from industry experts.
- Hands-on incubation support for prototype development.
- Networking opportunities with potential investors and policymakers.

DST-SERB Funded Research in Mechanical & Manufacturing Engineering and Robotics

A key collaboration with the Department of Science and Technology - Science and Engineering Research Board (DST-SERB) has resulted in a funded project worth ₹18,30,000, executed jointly with the CSIR-Central Food Technological Research Institute (CFTRI), Mysuru, and led by women researchers. The project focuses on Polymer Nanocomposites with a strong sustainability and food safety orientation, involving the selection or synthesis of FDA approved sustainable polymeric materials, preparation of functional fillers or reinforcements from agro-waste, development of nanocomposite films with enhanced mechanical strength, barrier properties, biodegradability, and heat sealability, conversion of these films into intelligent food packaging materials, and performance comparison with commercially used packaging products. In addition, JSS STU actively encourages women faculty to mentor student research projects funded by the Karnataka State Council for Science and Technology (KSCST), many of which have received not only funding but also prestigious best presentation awards, highlighting the exceptional quality of mentorship and innovation promoting by women leaders at the university.

CPHEEO (Central Public Health and Environmental Engineering Organization), under Ministry of Housing and Urban Affairs, Government of India.

The university is currently undertaking a comparative study on Cost-Benefit Analysis of Intermittent vs. 24×7 Water Supply Systems for Urban and Rural Areas, funded by the Central Public Health and Environmental Engineering Organization (CPHEEO), with a sanctioned amount of ₹40,38,845. Women researchers at JSS STU are actively contributing to this large-scale project that holds significant policy and infrastructure implications. The study involves extensive field data collection, modelling and simulation of water distribution systems and economic, social, and environmental impact assessments.

Participation in Bootcamp for NPTEL Translation at the Indian Institute of Technology Madras.

JSS STU has also deputed a woman faculty member to attend a Bootcamp for NPTEL translation at the Indian Institute of Technology Madras and to participate in translation activities and workshops, reflecting the university's commitment to exposing women faculty to frontier research areas in Artificial Intelligence and Natural Language Processing (NLP). Such opportunities are critical for women researchers to stay ahead in rapidly evolving technology domains. These collaborations and initiatives have generated multiple benefits for the women workforce at JSS STU, including leadership opportunities where women faculty head incubation centers, lead funded research projects, and manage multi-institutional collaborations; skill enhancement through participation in advanced workshops, bootcamps, and research projects that build expertise in environmental modelling, polymer nanotechnology, AI, and robotics; mentorship roles in guiding government funded student projects that nurture the next generation of innovators; and increased visibility and recognition through awards, competitive grants, and high-profile collaborations. Collectively, JSS Science and Technology University's partnerships with government research agencies and technology driven programmes demonstrate a strong commitment to embedding women in leadership and technical roles across diverse STEM domains

whether through high-impact environmental studies with IIT Madras, sustainable materials research with DST-SERB and CFTRI, entrepreneurial incubation under the Government of Karnataka's NAIN initiative, or policy driven water management studies with CPHEEO, where women at JSS STU are not just participants but leaders, innovators, and changemakers.