JYOTHISHMATHI INSTITUTE OF TECHNOLOGY & SCIENCE

INTERNAL QULITY ASSURANCE CELL

ANNUAL REPORT

2022-2023

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I.INTERNAL QUALITY ASSURANCE CELL

An Internal Quality Assurance Cell has been re-constituted as per the guidelines issued by the National Assessment and Accreditation Council for the Academic Year 2022-2023.

S.No.	IQAC Designation	College Designation	Name of the Members
1	Chairman	Head of the Institute	Dr. K.S Rao, Principal
2.	Members	Management Representatives	Mr.J.Sumith Sai Secretary/Correspondent-JITS
3	Members	Senior Administrative/ Technical Staff	Mr.D.Venu, Office Superintend-JITS
4	Members	Senior faculty	Dr.J.Jagadeesan, Professor, CSE Dr.G.Sridhar, Associate Professor, EEE
4	Members	Teachers	Dr.N.Umapathi,Associate Professor/ ECE Dr.Rajesh Guna,Associate Professor/Civil Mr.S.Gopal Reddy,Associate Professor/EEE Mr.R.Sridhar,Assistant Professor/MECH Mrs.K.Prasannalatha,Associate Professor, English
5	Member	Community Representative	Mr.M.S.V.Ramanamurthy C.A
6	Member	Alumni	Mr. Chinthala Ramesh, Assistant director, Department of Telecommunication (ITS), Coimbatore, TN
7	Member	Students	Sandoori sri Lekha (IV Year/CSE-C) Student Amireddy Divya sri (IV Year/ECE-B) Student
8	Members	Employers	Mr.K.Suman, Director, Gurpreet galvanising Pvt.Ltd.
10	Member Secretary	Coordinator, IQAC	Dr.J.Laxmi Rajashekhar, Professor/ MBA

II. Curricular aspects:

The institution has demonstrated a strong commitment to academic excellence by offering **494 courses** across its programs. This breadth reflects a comprehensive curriculum designed to meet diverse student needs and emerging industry demands. The inclusion of **14 certificate/add-on programs** highlights the institution's proactive approach to skill development and practical learning. The significant enrollment of **1,035 students in these programs** indicates high student interest and the institution's capability to deliver value-added education. Additionally, the implementation of the **Choice-Based Credit System (CBCS)** in **9 programs** showcases the institution's flexibility in enabling students to tailor their learning paths, aligning with modern educational trends.

Certificate Courses

To meet the evolving demands of technology and business, Jyothishmathi Institute of Technology and Science offered a wide range of certification courses during the academic year 2022-23. These programs aimed to equip students with advanced technical skills, innovation-driven knowledge, and entrepreneurial capabilities. Covering diverse areas like emerging technologies, design and development, and soft skills, the courses drew enthusiastic participation across all disciplines.

- **Emerging Technologies and Innovation:** Several courses focused on cutting-edge technologies such as *Deep Learning*, *Machine Learning using Python*, *Artificial Intelligence*, and *Internet of Things*. These courses provided students with hands-on experience in high-demand areas, with participation ranging from 46 to 110 students per course. Additionally, robotics and 3D printing courses introduced mechanical engineering students to innovation-driven manufacturing, fostering creative problem-solving skills.
- **Entrepreneurship and Professional Development:** Programs like From Techie to Founder: Launching an Engineering Startup and EQ for Engineers: Mastering Emotions for Success emphasized entrepreneurial and interpersonal growth.

These courses, attended by 166 and 142 students respectively, focused on fostering leadership, emotional intelligence, and business acumen, enabling participants to excel in startup ventures and collaborative environments.

- **Design, Simulation, and Analysis:** Technical courses on design and analysis, including *Sketch Up*, *SkyCiv Structural 3D*, *MATLAB*, and *PSPICE*, were tailored for engineering students to strengthen their analytical capabilities. Participants engaged in practical applications of structural modeling, circuit simulation, and computational tools, ensuring a robust understanding of real-world engineering challenges.

By addressing key areas of technology, innovation, and professional development, these certification courses prepared students for dynamic industry requirements and entrepreneurial opportunities, contributing significantly to their personal and professional growth.

Mentorship and Student Guidance

With a **mentor-to-student ratio of approximately 1:14**, the institution provides personalized academic and emotional support to students. Mentorship programs are critical in guiding students toward achieving their academic and career goals, fostering a supportive and nurturing learning environment.

Efforts to support **slow learners** were thoughtfully designed to ensure their academic progress and confidence-building. Remedial classes were organized to provide personalized attention and help bridge learning gaps, focusing on fundamental concepts and essential skills. Faculty members employed interactive teaching methods, such as peer tutoring and group discussions, to encourage active participation and collaborative learning. Periodic assessments and feedback sessions allowed instructors to identify areas of improvement and adjust teaching strategies accordingly. Counseling sessions were also made available to address emotional and psychological challenges, fostering a supportive environment for these students.

For **advanced learners**, initiatives were tailored to challenge and expand their knowledge base. Enrichment programs, including advanced workshops, specialized certification courses, and research opportunities, were introduced to deepen their understanding of complex topics.

Participation in hackathons, technical competitions, and industry internships allowed these students to apply their skills in real-world contexts, fostering innovation and critical thinking. Faculty members provided mentorship to guide advanced learners in publishing research papers and developing innovative projects, ensuring they reached their full potential while inspiring peers. This dual approach ensured a balanced and inclusive learning environment for all students.

Teaching Learning Process:

The institution believes in student-centric learning as it focuses on individual students' interactions and competencies in learning patterns with the teacher as facilitator.

Experiential learning: Students are provided the freedom to analyze and explore their ideas through learning by doing. Students acquire knowledge from direct experience by participating in internships, case studies, industrial visits, and attending online courses like NPTEL, SWAYAM, etc. The students are encouraged to learn the content beyond the curriculum and motivated to undertake industry-oriented mini-projects.

Participative Learning: Students are provided a platform to express their skills by participating in group discussions, debates, seminars, quizzes, paper presentations, and technical events. To get hands-on experience with recent technological trends, students are taken on on-field industrial visits and encouraged to participate in various technical activities.

Problem-solving methodologies: To improve the student's problem-solving abilities, the faculty gives them several case studies to work on. Students are required to take part in group activities where they share ideas and learn from one another, which aids in problem-solving.

ENTREPRENEURSHIP DEVELOPMENT & IPR RELATED PROGRAMMES AT THE INSTITUTION

To nurture entrepreneurial skills and cultivate a mindset for innovation, a series of seminars and workshops were organized during the academic year 2022-2023.These programs comprehensively addressed critical areas essential for entrepreneurship, including financial management, legal frameworks, innovation protection, team building, and market analysis. Each

session provided participants with practical knowledge and tools to navigate the complexities of entrepreneurship, ensuring their ventures are built on strong foundations. These sessions addressed various critical aspects of entrepreneurship and were categorized into the following themes:

1. Financial and Economic Aspects of Entrepreneurship

- **Technical Financing for Startup Success (19.10.2022):** Facilitated by **Mr. Ravikanth**, this session outlined approaches to secure financial support for technology-oriented startups. The discussion highlighted strategies to address funding challenges while fostering innovation and ensuring sustainability.
- **Economic Viability of Entrepreneurial Ventures (04.05.2023):** Delivered by **Dr. M. Swetha**, the session emphasized evaluating financial feasibility, including aspects such as market demand, cost management, and revenue forecasting. Practical insights were shared to optimize resource utilization and drive profitability.

2. Legal and Ethical Frameworks:

- **Legal and Ethical Foundations of Business (21.10.2022):** Presented by **Dr. Laxmi Rajashekhar**, this seminar explored essential legal and ethical principles. It underscored the importance of building businesses that comply with regulations and uphold social responsibility, fostering integrity and sustainable growth.

3. Innovation and Intellectual Property

- **Role of Intellectual Property Rights (IPR) in Entrepreneurship Development (02.11.2022):** Introduced by **Mr. V. Sudheer Kumar**, this session focused on protecting innovations and creative assets. Strategies to secure intellectual property were explained to enhance competitiveness and support entrepreneurial success.

4. Team and Talent Management

- **Teamwork and Team Management in Entrepreneurship (09.11.2022):** Explored by **Ms. T. Kiranmayee**, this workshop emphasized the significance of cohesive teams in

startups. Key areas covered included effective communication, collaboration, and leadership, fostering a culture of innovation and problem-solving.

- **Talent Acquisition and Management Strategies for Startups (12.11.2022):** Led by **Ms. Sindhurani Thakur**, this session addressed unique human resource challenges faced by startups. Participants were provided with actionable strategies to attract, retain, and nurture talent, focusing on developing a strong employer brand and cultivating an engaging work environment.

5. Market Analysis and Feasibility

- **Market Research and Feasibility Analysis in Entrepreneurship Development (25.11.2022):** Hosted by **Mr. D. Venu Gopal**, this session introduced tools and techniques for assessing market dynamics and evaluating business ideas. Participants gained a comprehensive understanding of market research methodologies, consumer behavior analysis, and risk mitigation strategies to ensure informed decision-making.

Each seminar provided strategies essential for entrepreneurial success. These programs fostered innovation, encouraged ethical practices, and equipped students to tackle real-world challenges. By addressing diverse themes, the initiative ensured a comprehensive understanding of the entrepreneurial ecosystem, empowering students to build sustainable and impactful ventures.

Gender Equity and Women Empowerment Initiatives

The institution has taken proactive measures to promote **gender equity**, reflecting its commitment to inclusivity and societal consciousness. Through initiatives such as mandatory courses on Gender Sensitization prescribed by JNTUH, students are educated about the social, legal, and economic aspects of gender equality. Programs like "Save Girl Child – Save Humanity," "Empowering Women in STEM," and "Digital Literacy and Online Safety for Women" instill confidence and equip female students with essential skills and knowledge. The celebration of International Women's Day and the launch of the "Centre of Excellence for Women Empowerment" further reinforce the institution's dedication to fostering leadership and empowerment among women.

To ensure a safe and supportive environment, the institution provides facilities such as CCTV surveillance, complaint boxes, spacious common rooms, and 24/7 security services. A dedicated Women Protection Cell organizes workshops on self-defense, legal rights, and ethical leadership, empowering female students to overcome challenges and contribute meaningfully to society. These efforts align with the institution's core values of nurturing ethical professionals and fostering leadership. By addressing gender-related issues through education, awareness programs, and infrastructure, the institution creates an inclusive campus culture that celebrates diversity and prepares students to become socially responsible leaders.

III. Faculty Development and Research

Faculty development is a priority for the institution, as evidenced by the multiple FDPs organized on cutting-edge topics like IoT, Blockchain, and Machine Learning. The participation of faculty in platforms like NPTEL and SWAYAM for certifications indicates a culture of continuous learning. With **2 recognized research guides** and a department receiving funding of ₹**2,71,500**, the institution is making strides in promoting research. However, the relatively small scale of funded projects highlights an area for growth—securing more significant research grants through collaborations and proposal development. The institution upholds a robust research policy that encourages innovation while ensuring adherence to ethical standards in all research activities. Guidelines are implemented to promote integrity, prevent plagiarism, and ensure socially responsible outcomes in research endeavours. The institution has made commendable progress with the publication of 115 research papers in UGC-notified journals during the year, reflecting its growing research culture. Continuous efforts are being made to further enhance research output and achieve greater academic excellence.

IV. Student Activities and Participation

Student engagement is a key strength, with **611 students participating in internships and projects**, indicating a focus on experiential learning. These opportunities provide hands-on experience and prepare students for real-world challenges. The institution's active encouragement of curricular, co-curricular, and extracurricular activities has fostered well-rounded development, as evidenced by high levels of participation in regional and national events. The **pass percentage of 78.16%** for final-year students showcases consistent academic

performance, though efforts can be made to improve support mechanisms for struggling students to enhance the success rate further.

NSS PROGRAMMES OF THE INSTITUTION

The diverse NSS activities conducted by the institution during the academic year 2022–2023 reflect its unwavering commitment towards institution vision, mission, and core values. By organizing events like the Yuva Utsav and environmental awareness programs, the institution integrates academic excellence with leadership and global competency.

These initiatives, designed to address real-world challenges, cultivate innovative thinking and an entrepreneurial mindset among students, empowering them to create sustainable solutions. The NSS activities exemplify the institution's quality policy of delivering student-centric education and fostering research and disciplined practices while maintaining a strong equilibrium between academia and societal responsibilities. Through these efforts, the institution continues to prepare its students to achieve global excellence while upholding their role in nation-building.

- **Health and Well-being Initiatives:** The NSS unit organized a **Covid-19 Vaccination Precaution Dose Camp** on August 29–30, 2022, in collaboration with the Thimmapur MPHC, promoting public health awareness and vaccination efforts. Additionally, an **Eye Checkup Camp** was held on August 24, 2022, in partnership with Max Vision Eye Hospital, Karimnagar, emphasizing the importance of vision care and preventive health measures.
- **Community and Social Awareness:** Several community-centric programs were conducted to foster inclusivity and awareness. Notable among these was the Har Ghar Tiranga Campaign on August 11, 2022, which encouraged patriotic fervor in alignment with India's independence celebrations. The unit also undertook a Voter Awareness Program on January 25, 2023, to mark National Voter's Day, aimed at educating the community on electoral participation. Programs such as Legal Awareness on Anti-Discrimination Laws and Inclusive Practices on February 16, 2023, reinforced the importance of equality and social justice.

- **Youth and Educational Support:** The NSS unit focused on nurturing talent and supporting education through events like the Republic Day Celebrations on January 26, 2023, at a government school in Ramakrishna Colony. Clothes and financial support of ₹60,000 were distributed to meritorious students, showcasing a commitment to educational empowerment. Additionally, the District Level Yuva Utsav-2023, conducted on March 4, 2023, in collaboration with Nehru Yuva Kendra, Karimnagar, provided a platform for young talents to showcase their abilities.

- **Environmental and Anti-Drug Campaigns:** Environmental conservation was a prominent theme, with three Awareness Programs on Plastic Usage and its Adverse Effects held in Karimnagar at different locations on March 30, April 6, and April 13, 2023. These events highlighted the importance of reducing plastic waste for sustainable living. Moreover, an Anti-Drug Awareness Program on March 21, 2023, educated participants about the dangers of substance abuse and the importance of leading a healthy lifestyle.
- **Humanitarian Efforts and Skill Development:** The NSS unit extended humanitarian support by distributing fruits at Civil Hospital, Karimnagar, on November 4, 2022. Practical skills and emergency response training were emphasized through events like the CPR Test Program on March 18, 2023, in collaboration with the Red Cross Society.

These activities reflect the institution's dedication to fostering societal well-being, environmental consciousness, and youth empowerment through the NSS unit's dynamic initiatives.

V. Infrastructure and Resources

With **43 classrooms and seminar halls** and **698 computers for academic purposes**, the institution is well-equipped to facilitate modern education. Investments in digital resources, smart classrooms, and e-learning tools have strengthened the teaching-learning process.

VI. Feedback and Stakeholder Engagement

The institution has established a robust feedback mechanism involving students, teachers, employers, and alumni. Regular analysis and action taken on feedback, published on the website, demonstrate transparency and a commitment to quality improvement. This participative

approach ensures that stakeholders' voices contribute to decision-making, fostering trust and alignment with institutional goals.

VII.Institutional Values and Best Practices

The institution promotes sustainability through green initiatives like tree plantations and awareness programs. Efforts to integrate Indian knowledge systems and emphasize professional ethics highlight its commitment to cultural and moral values. Activities under NSS and community outreach underline social responsibility. Regular cultural and environmental programs foster a sense of inclusivity and global citizenship among students and staff.

The institution actively celebrates national and international commemorative days, such as Republic Day, Independence Day, and International Women's Day, fostering a sense of unity and cultural awareness. These events highlight the importance of historical and global milestones, promoting inclusivity and societal values among students and staff.

The institution is committed to sustainability through the adoption of alternate energy sources and energy conservation measures. Solar energy systems are installed on campus, reducing dependence on conventional power and promoting renewable energy use. Excess energy generated is efficiently managed through wheeling to the grid, contributing to the larger energy ecosystem. Sensor-based energy conservation systems optimize electricity usage by ensuring lights and appliances operate only when needed, minimizing wastage. Additionally, the institution has transitioned to LED lighting and power-efficient equipment across facilities, significantly reducing energy consumption while enhancing efficiency. These initiatives align with the institution's vision of fostering environmental responsibility and sustainability.

The institution prioritizes water conservation through borewell and open well recharge systems, ensuring sustainable groundwater management. Tanks and bunds are constructed to store rainwater and support irrigation needs. Additionally, the maintenance of water bodies and an efficient water distribution system across the campus ensures optimal utilization of this vital resource.

The institution demonstrates its commitment to environmental sustainability through regular **green, energy, and environment audits**, ensuring compliance and efficient resource utilization. These audits promote accountability and foster eco-friendly practices within the campus. Additionally, the institution actively engages in **beyond-the-campus environmental initiatives**, including awareness drives and community-focused activities, to extend its environmental stewardship.

The institution provides a disabled-friendly and barrier-free environment with facilities such as **dedicated washrooms** and **human assistance** for inquiry, including readers and scribes. Display boards and signposts across the campus further enhance navigation and inclusivity for all.

VIII. Plan of action for the next academic year:

The IQAC of our institution has identified the principal objectives to be accomplished during the next academic year.

- Actively seeking funding opportunities from various Government and Non-Government entities for research projects.
- Cultivating enthusiasm among students and faculty for interdisciplinary research endeavors.
- Promoting participation in contemporary technology and trend certification programs such as NPTEL and Swayam among students and faculty members.
- Reaching the community with the best technical solutions Student and faculty development on par with the industry requirements

Overall, the institution has shown strong performance across academics, infrastructure, research, and stakeholder engagement. While there are areas for improvement, particularly in scaling research funding and improving pass percentages, the report reflects a positive trajectory in achieving institutional excellence. Strategic planning and targeted initiatives can further elevate the institution’s impact on students, faculty, and society.