JSS ACADEMY OF HIGHER EDUCATION & RESEARCH
(DEEMED TO BE UNIVERSITY) MYSURU

Educational Programmes on Ecosystems for Local or National Communities

1. EXECUTIVE SUMMARY

JSS Academy of Higher Education & Research (JSS AHER) offers educational programmes on ecosystems — including wild flora and fauna — across multiple delivery modes and to multiple community audiences. This report directly addresses **SDG 15, Indicator 15.2.4** and the university-level answer is a comprehensively evidenced **Yes**.

JSS AHER's ecosystem education for communities operates through **five distinct channels**: (1) **Formal degree and academic programmes** — a dedicated M.Sc. in Environmental Sciences producing community-ready ecosystem professionals; B.Pharm Environmental Sciences subject (PCI-mandated); and Pharmacognosy curriculum covering wild plant biodiversity and conservation; (2) **Public outreach exhibitions** — the Medicinal Plants Exhibition at the Government Botanical Garden Flower Show, Ooty (20,000+ visitors, May 2026), reaching tourists, the general public, and healthcare professionals with knowledge of wild plant ecosystems and conservation; (3) **Community ecosystem field education** — the Collaborative Tree Census Project for Mysuru city (Oct 2025–Mar 2026), systematically educating students and civic organisations on urban biodiversity; (4) **Tribal and rural community environmental education** — the JSSCPO NSS Special Camp with Biodiversity Conservation Trust and Forest Department interactions for tribal communities; (5) **One Health ecosystem education** — the JSSMC IAPSM-ICMR One Health initiative (community rally, CME with 300 delegates, quiz) explicitly linking human, animal, and environmental health ecosystems for the community.

20,000+	M.Sc.	300	3 Weblinks
VISITORS — MEDICINAL PLANTS EXHIBITION	DEDICATED ENVIRONMENTAL SCIENCES DEGREE	ONE HEALTH CME DELEGATES (JSSMC)	FORMAL "YES" — SLSM AND DEPT. OF YOGA

128th Flower Show, Government Botanical Garden, Ooty · 21 prizes · May 2026	*Water quality · energy · air quality · climate change · green technology · produces community professionals*	*Human-animal-environmental health ecosystem · IAPSM-ICMR · 21 Nov 2025*	*NOTICESID=7251 · 7180 · 6534 — three documented events confirmed*

Biodiversity Conservation Trust **INTERACTIVE ECOSYSTEM EDUCATION — TRIBAL COMMUNITY** *Apr 2026 · Kallampalayam · wild flora identification · ecosystem restoration · Forest Dept. insights*	**Mysuru City** **TREE CENSUS — URBAN BIODIVERSITY EDUCATION** *Oct 2025–Mar 2026 · CFAL + MGP + NSS JSSCPM · community-university collaboration*	**150+** **FARMERS — WORLD COCONUT DAY ECOSYSTEM TRAINING** *4 Sep 2025 · coconut agroecosystem · biodiversity · pest-beneficial organism relationship*	**QR Garden** **PLANNED DIGITAL MEDICINAL PLANT GARDEN — JSSCPO** *Instant access to plant conservation info via mobile; students + visitors*

2. INSTITUTIONAL FRAMEWORK — FIVE CHANNELS OF ECOSYSTEM EDUCATION

The question asks whether JSS AHER offers ecosystem educational programmes **"for local or national communities"** — meaning the programmes reach beyond enrolled students to the wider public, local communities, or national audiences. JSS AHER's ecosystem education reaches five distinct community audiences through five structured channels:

Channel	Programme Type	Community Audience Reached	Ecosystem / Flora-Fauna Content	Key Evidence
1. Formal degree programme	M.Sc. Environmental Sciences — dedicated degree	National community of environmental professionals; graduates deployed in environmental stewardship roles	Water quality ecosystems, energy, air quality, climate change, green technology — comprehensive ecosystem science	JSSCPM 15.2.4 formal response: "JSSAHER offers a dedicated Master's degree in Environmental Sciences"
2. Curriculum-embedded (B.Pharm, B.D.S., M.B.B.S.)	Environmental Sciences subject — PCI/UGC-mandated in all programmes	All pharmacy, medical, dental students who then serve as community health professionals	Ecosystem conservation, biodiversity, environmental sustainability — wild plant and ecosystem literacy	JSSCPO 15.2.4: "B.Pharm prescribed by Pharmacy Council of India — Environmental Sciences subject taught for conservation of land"
3. Public outreach exhibitions	Medicinal Plants Exhibition — Government Botanical Garden, Ooty (Flower Show)	General public: 20,000+ visitors including tourists, healthcare professionals, students, researchers	Wild medicinal plant species of Nilgiris biosphere; conservation status; therapeutic uses; sustainable utilisation	JSSCPO SDG 15.2.4: 128th Flower Show, May 2026; 21 prizes; ₹3.05 Lakh
4. Community field education	Collaborative Tree Census — Mysuru city; Biodiversity Conservation Trust	Mysuru residents, farmers, civic organisations, tribal communities	Urban tree biodiversity; wild flora identification; ecosystem restoration;	JSSCPM Tree Census (Oct 2025–Mar 2026); JSSCPO Biodiversity Conservation Trust (Apr 2026); KVK farmer days

	sessions; KVK horticulture days		Nilgiris flora/fauna/ecosystem	
5. One Health ecosystem education	IAPSM-ICMR One Health community rally, CME, quiz	Mysuru general public (community rally at Medar Block, Bamboo Bazar); 300 MBBS delegates; school children	Human-animal-environmental health ecosystem; zoonotic diseases; urbanisation impacts on ecosystems; antimicrobial resistance in environment	JSSMC One Health rally (3 Nov 2025); One Health CME 300 delegates (21 Nov 2025); NOTICESID=7251/7180/6534

3. FORMAL DEGREE AND CURRICULUM — M.SC. ENVIRONMENTAL SCIENCES AND MANDATORY ECOSYSTEM COURSES

JSS AHER's ecosystem education begins at the foundation level: the university offers a **dedicated Master's degree in Environmental Sciences**, a resource specifically described as producing community-ready professionals for environmental stewardship. The JSSCPM 15.2.4 formal response explicitly states: ***"JSSAHER offers a dedicated Master's degree in Environmental Sciences, focusing on areas such as water quality analysis, energy harnessing, air quality, climate change, and green technology, producing skilled professionals for environmental stewardship."***

3.1 M.Sc. Environmental Sciences — National Community Impact

PROGRAMME: *Master of Science (M.Sc.) in Environmental Sciences — dedicated postgraduate degree*

ECOSYSTEM CONTENT COVERED: *Water quality ecosystems and analysis; energy systems (renewable, clean); air quality and air ecosystem monitoring; climate change science; green technology applications*

COMMUNITY DIMENSION: *Graduates become environmental professionals, scientists, policy advisors, and stewards who serve local and national communities — the community impact is multiplied through each graduate's career*

SDG 15.2.4 SIGNIFICANCE: *A dedicated degree producing ecosystem experts IS an educational programme for communities — graduates carry ecosystem knowledge into professional practice, government, NGOs, and civil society*

3.2 Mandatory Environmental Sciences — B.Pharm (Pharmacy Council of India)

Every B.Pharm student at JSSCPO completes the **Environmental Sciences subject as mandated by the Pharmacy Council of India (PCI)**. The JSSCPO 15.2.4 documentation explicitly notes that this course addresses ***"conservation of land"*** and covers ecosystem conservation and biodiversity. This is significant because pharmacists interact with communities across India and become **ecosystem knowledge multipliers** — equipped through their professional training to advise on medicinal plant conservation, sustainable harvesting, and environmental stewardship.

COURSE: *Environmental Sciences — B.Pharm Year 1 (PCI-prescribed)*

ECOSYSTEM CONTENT: *Biodiversity conservation; ecosystem protection; land conservation; environmental sustainability; medicinal plant identification and sustainable harvesting*

WILD FLORA AND FAUNA CONTENT: *Pharmacognosy field: wild medicinal plant identification, collection, authentication; conservation status of medicinal species; biodiversity hotspot awareness (Nilgiris region)*

COMMUNITY MULTIPLIER: *Every pharmacy graduate becomes a community-accessible expert on medicinal plant (wild flora) conservation and ecosystem stewardship in their practice location*

3.3 Pharmacognosy Curriculum — Wild Plant Ecosystem Literacy

The Pharmacognosy curriculum at JSSCPO provides the most detailed ecosystem-specific education, described as: ***"integrating ecosystem conservation, biodiversity, environmental sustainability, and the sustainable utilization of medicinal plants into undergraduate and postgraduate programmes. Courses... provide students with theoretical knowledge and practical exposure to biodiversity conservation, medicinal plant identification, sustainable harvesting, natural resource management, and ecosystem protection."***

Pharmacognosy Teaching Component	Wild Flora / Fauna Content	Community Learning Outcome
Medicinal plant identification (practical)	Wild plant species identification in the Nilgiris region; endemic medicinal plants; forest floor species; conservation status	Students become proficient identifiers of wild medicinal plants — directly relevant to community conservation
Sustainable harvesting principles	Responsible harvesting from wild ecosystems; harvest cycles; post-harvest regeneration; ethical sourcing from wild vs. cultivated sources	Community understanding of sustainable utilisation of wild plant ecosystems
Natural resource management	Ecosystem services of wild plants; habitat requirements; seasonal availability; biodiversity hotspot significance	Professional community knowledge of ecosystem function and conservation priorities
Field visits to medicinal plant gardens and campus collections	Hands-on identification; living specimens of native and wild-sourced species; Nilgiris biosphere context	Experiential ecosystem learning directly connected to real wild plant populations
Biodiversity Conservation Trust interaction (NSS camp, Apr 2026)	Seed collection: soap nut (Sapindus emarginatus), Seemai Karuvelam (Prosopis juliflora), Albizia species — wild native plants	Direct exposure to wild native plant identification, ecological significance, and seed conservation in tribal landscape

M.Sc. Environmental Sciences Degree Programme — JSS AHER: Producing Community-Ready Environmental Stewardship Professionals

M.Sc. Environmental Sciences: water quality, air quality, climate change, green technology — graduates serve national community in ecosystem stewardship roles; PCI-mandated B.Pharm Environmental Sciences reaches every pharmacy graduate nationwide

Pharmacognosy Curriculum — Field Visits, Wild Plant Identification, Nilgiris Medicinal Plant Ecosystem: Students Learn Conservation in India's First Biosphere Reserve

JSSCPO Pharmacognosy: wild plant identification, sustainable harvesting, natural resource management; field visits to medicinal plant gardens; Biodiversity Conservation Trust session (2 Apr 2026): soap nut, Albizia, Seemai Karuvelam seed collection and ecological significance

4. JSSCPO — MASS PUBLIC ECOSYSTEM EDUCATION: 20,000+ VISITORS AT THE FLOWER SHOW

The **128th Flower Show and Rose Show, Government Botanical Garden and Government Rose Garden, Ooty (May 2026)** is the most impactful single ecosystem education event in the JSS AHER portfolio — reaching over **20,000 visitors** from across India and internationally. The TIFAC-CORE in Herbal Drugs and Department of Pharmacognosy organised a **Medicinal Plants Exhibition** specifically to educate the public on the therapeutic importance, conservation status, and sustainable utilisation of medicinal plants — wild flora of the Nilgiris biosphere.

PUBLIC EXHIBITION May 2026	**128th Flower Show — Medicinal Plants Exhibition, Government Botanical Garden, Ooty**
	Audience: 20,000+ visitors: students, researchers, healthcare professionals, tourists, general public — the widest community reach of any single JSS AHER ecosystem education event
	Ecosystem / Flora & Fauna Content: Conservation and sustainable utilisation of Nilgiris medicinal plants (wild flora); therapeutic importance of native plant species; herbal product demonstration (eucalyptus oil, gaultheria oil from wild Nilgiris plant species); biodiversity awareness for general public
	JSSCPO SDG 15 source document; TIFAC-CORE Herbal Drugs + Dept. of Pharmacognosy; 21 prizes; ₹3.05 Lakh value-added herbal products

4.1 What Ecosystem Content the Flower Show Delivers

The Flower Show exhibition is not a generic display — it is specifically about **wild flora ecosystem knowledge** for 20,000+ community members who may never otherwise encounter structured information on plant biodiversity, ecosystem services, or conservation. Key content includes:

- Therapeutic importance of Nilgiris medicinal plants — connecting wild plant species to healthcare and human well-being
- Conservation status of medicinal plant species — public education on which wild plants are under threat and why
- Sustainable utilisation principles — when and how wild plants can be harvested without depleting wild populations
- Eucalyptus (Eucalyptus spp.) and Gaultheria (Gaultheria fragrantissima) — Nilgiris native and naturalised species; demonstration of value-added products from sustainable harvesting
- Nilgiris biosphere context — placing medicinal plant conservation within India's most biodiverse mountain ecosystem

PRIZES WON: *21 prizes for medicinal plant exhibits — institutional recognition of educational quality*

REVENUE FROM SUSTAINABLE PRODUCTS: *₹3.05 Lakh — demonstrates that ecosystem knowledge and sustainable utilisation create economic value for communities, the strongest possible conservation incentive*

SDG 15.2.4 SIGNIFICANCE: *20,000+ community members = the largest single reach figure in the entire JSS AHER SDG portfolio for any ecosystem education event*

4.2 Planned QR-Enabled Medicinal Plant Garden — Permanent Public Ecosystem Education

The Department of Pharmacognosy has planned a **QR-enabled Medicinal Plant Garden** — a living ecosystem exhibit where students and visitors scan QR codes to access digital information on each plant's conservation status, ecological role, therapeutic uses, and sustainable harvesting guidelines. This will make ecosystem education available to the community **365 days a year, without scheduled events**, through the campus as a living classroom.

GARDEN CONCEPT: *QR-enabled digital overlay on living medicinal plant collection; each plant linked to educational content via mobile device*

WILD FLORA CONTENT: *Species information on medicinal plants including wild origin, native range, conservation status, ecological role in Nilgiris ecosystem*

COMMUNITY ACCESS: *Visitors and campus community access ecosystem information at any time — a permanent, free public ecosystem education resource*

4.3 Prakriti Green Club — Student Ecosystem Educators

The **'Prakriti' Green Club** — one of seven official IQAC-coordinated student clubs at JSSCPO with elected Secretary/Joint Secretary — was inaugurated during the **64th National Pharmacy Week Celebrations (January 2026)**. It provides a structured platform for student-led environmental conservation and ecosystem education, extending ecosystem knowledge from the classroom to the wider community through student-initiated outreach.

128th Flower Show, Government Botanical Garden, Ooty — Medicinal Plants Exhibition: 21 Prizes, 20,000+ Visitors, Nilgiris Wild Flora Conservation Education (May 2026) *TIFAC-CORE + Dept. Pharmacognosy: Nilgiris medicinal plant conservation; therapeutic importance; sustainable utilisation; eucalyptus + gaultheria oil products; 21 prizes; ₹3.05 Lakh; tourists + researchers + students + public = 20,000+*	**QR-Enabled Medicinal Plant Garden (Planned) — Department of Pharmacognosy, JSSCPO: Living Ecosystem Exhibit with Digital Conservation Information Access** *QR garden: each plant linked to mobile-accessible conservation data; species from wild Nilgiris flora; conservation status; sustainable harvesting guidelines; living classroom open 365 days; visitors access ecosystem education independently*	**Prakriti Green Club Launch at 64th National Pharmacy Week 2026 — IQAC-Coordinated Student Ecosystem Education Initiative** *Prakriti: 7 IQAC clubs; elected officers; biodiversity awareness campaigns; environmental conservation events; ecosystem stewardship through student-led community outreach; launched National Pharmacy Week Jan 2026*

JSS MEDICAL COLLEGE (JSSMC) | *One Health community rally · CME 300 delegates · Quiz · Human-animal-environmental ecosystem education*

5. JSSMC — ONE HEALTH: EDUCATING COMMUNITIES ABOUT THE HUMAN-ANIMAL-ENVIRONMENTAL ECOSYSTEM

The **One Health initiative** at JSS Medical College, Mysuru — conducted under the **IAPSM-ICMR National Initiative on One Health** — provides a uniquely relevant form of ecosystem education for communities. One Health recognises that **human health, animal health, and environmental/ecosystem health are inseparable** — a philosophy that directly addresses SDG 15.2.4's focus on ecosystems including wild fauna, by showing communities how the health of wild

animal populations, domestic animal ecosystems, and environmental ecosystems directly determines human health outcomes.

5.1 One Health Community Awareness Rally (3 November 2025)

ONE HEALTH 3 November 2025	**One Health Awareness Rally — "One World, One Health: United for Human, Animal, and Environmental Well-being"**
	Audience: General public of Medar Block, Bamboo Bazar, Mysuru — community rally reaching citizens in a densely populated commercial area; faculty, postgraduate students, Phase II MBBS students, health workers
	Ecosystem / Flora & Fauna Content: Human-animal-environmental health ecosystem interconnections; zoonotic diseases (wild and domestic animal-to-human disease pathways); antimicrobial resistance in environmental ecosystems; urbanisation impacts on health ecosystems
	Flagged off by Dr. Sunil Kumar D (Head, Dept. Community Medicine); procession from JSS Urban Health Center through Medar Block; posters and placards; slogans on One Health concept

WILD FAUNA DIMENSION: *Zoonotic disease education explicitly links wild animal populations (reservoirs of disease) to community health — the community learns that wildlife ecosystem health directly protects human health*

ENVIRONMENTAL ECOSYSTEM DIMENSION: *Antimicrobial resistance in the environment; environmental health concerns; urbanisation impacts on ecosystems*

SDG 15.2.4 CONNECTION: *One Health education about zoonotic diseases IS ecosystem education about wild fauna — it shows communities that wild animal biodiversity is not separate from their daily health and safety*

5.2 One Health CME — 300 Delegates (21 November 2025)

ONE HEALTH 21 November 2025	**One Health CME — IAPSM-ICMR National Initiative on One Health, JSS Medical College**
	Audience: 300 delegates: Phase III Part I MBBS students (future community physicians) + faculty + postgraduate students — healthcare professionals who will carry ecosystem knowledge to communities across India
	Ecosystem / Flora & Fauna Content: Expert talk by Dr. Nayanabai Shabadi: urbanisation impact on public health (urban ecosystem disruption); Dr. Shwethashree M: emerging infectious diseases (wildlife-human disease interfaces); Dr. Smitha M.C.: environmental health concerns (ecosystem health = human health); Dr. Mythily M.R.: antimicrobial resistance (environmental ecosystem contamination)
	Coordinated by Dr. Amoghashree; guided by Dr. Sunil Kumar D (Head); Department of Community Medicine, JSSMC

WILD FAUNA ECOSYSTEM CONTENT: *Emerging infectious diseases: 60% of emerging pathogens originate in wildlife; teaching future doctors about wildlife disease ecology is ecosystem education for the community via healthcare professionals*

COMMUNITY MULTIPLIER: *Each of 300 physician delegates will serve communities across Karnataka and India, carrying ecosystem health knowledge into clinical practice and community health programmes*

5.3 One Health Preliminary Quiz (19 November 2025)

The **One Health Preliminary Quiz (19 November 2025)** assessed students on **zoonotic diseases, environmental health, and antimicrobial resistance** — with 30 students engaged. The quiz format makes ecosystem knowledge competitive and memorable, reinforcing learning outcomes. It is part of the IAPSM-ICMR national initiative, connecting JSSMC's ecosystem education to a national programme.

One Health Community Rally — "One World, One Health": JSSMC Faculty and Students March Through Medar Block, Bamboo Bazar with Zoonotic Disease and Ecosystem Health Awareness (3 Nov 2025) *IAPSM-ICMR One Health: community rally at Medar Block from JSS Urban Health Center; posters on zoonotic diseases and AMR in environment; slogans connecting human-animal-environmental health; Phase II MBBS + postgraduate students + faculty + health workers participating*	**One Health CME — 300 MBBS Delegates: Expert Talks on Urbanisation Ecosystem Impacts, Emerging Infectious Diseases (Wildlife-Human Interface), Environmental Health (21 Nov 2025)** *CME One Health: Dr. Shwethashree M (emerging infectious diseases = wildlife ecosystem); Dr. Smitha M.C. (environmental health = ecosystem health); Dr. Nayanabai Shabadi (urbanisation = ecosystem disruption); 300 future community physicians trained as ecosystem health educators*

6.1 Collaborative Tree Census Project — Urban Biodiversity Education (Oct 2025–Mar 2026)

COMMUNITY OUTREACH **12 Oct 2025 – 1 Mar 2026**	**Collaborative Tree Census Project — Mysuru Urban Biodiversity Documentation**
	Audience: Mysuru community: residents, civic organisations, Mysore Grahakara Parishat (consumer/civic NGO), Centre for Advanced Learning (CFAL); NSS students as community educators
	Ecosystem / Flora & Fauna Content: Urban tree species identification; ecological significance of urban trees; biodiversity conservation in urban environments; ecosystem services of trees (carbon sequestration, cooling, habitat, air quality); community stewardship of urban green heritage
	Collaboration: Dr. Smitha Hegde (Director, CFAL) + Dr. Bhamy Shenoy (Founder, Mysore Grahakara Parishat) + NSS JSSCPM; 5-month continuous programme

WILD FLORA DIMENSION: *Urban trees are part of wild biodiversity; some are native species providing habitat for birds, insects, bees; census identifies species composition of Mysuru's urban forest*

COMMUNITY EDUCATION MODEL: *Students teach community members about tree species, ecological significance, and conservation — the census is simultaneously a data collection exercise and a community ecosystem education programme*

SDG 15.2.4 SIGNIFICANCE: *5 months of continuous community ecosystem education reaching civic stakeholders, NGOs, and residents of Mysuru — the most sustained community ecosystem education programme in the 2025–26 portfolio*

6.2 ICAR JSS KVK — Ecosystem Education for Farmers (Wild Flora, Fauna, and Soil Ecology)

The **ICAR JSS KVK Suttur** operates as a year-round ecosystem education centre for the farming community, providing knowledge about wild flora (medicinal plants, GI-tagged crops), fauna (beneficial insects, pollinators, predatory organisms), and soil ecology. Key 2025–26 programmes:

Programme	Date	Community Reached	Ecosystem / Wild Flora-Fauna Content
World Coconut Day — training, farmer-scientist interaction, drone demo	4 Sep 2025	150+ farmers including women + IAT + NBAIR scientists	Coconut agroecosystem; biological management of pests (spiral whitefly, blackhead worm) using predatory/parasitic organisms (wild fauna); integrated farming preserving ecosystem balance
National Horticulture Day and Beekeeping Training	8 Aug 2025	70+ farmers + KVK staff	Honeybee biology (stingless and stinging bee species); bee colony management; honeybee decline from chemical use; role of bees in crop pollination ecosystem; wild fauna interaction with cultivated landscapes
Legumes Technology Day	Oct 2025	250+ farmers + 89 JSS women students	Legume ecosystem; nitrogen-fixing bacteria in soil; LBG 791 pulse variety; biodiversity in agro-ecosystem; GI-tagged crop conservation
Vikasit Krishi Sankalp Abhiyan — 131 villages	29 May–12 Jun 2025	34,669 farmers; 131 villages	Soil health ecosystem (52.07% unhealthy); natural farming preserving soil biodiversity; GI-tagged crops (Nanjangud Rasabale, Mysuru Mallige, black paddy); biocontrol organisms (Trichoderma, Metarhizium)
Seed distribution programme — LBG 791 + biocontrol package	2025–26	275+ Model Pulse Village farmers + 80+ SC/ST Akkur village farmers	Legume biodiversity; Rhizobium soil symbiosis; natural ecosystem services of nitrogen fixation
Progressive farmer field visits — Parashivamurthy organic farm, Krishnegowda integrated farm	May–Jun 2025	34,669 farmer delegates (through VKSA) + US delegates	Organic farming ecosystem; earthworm and soil fauna; biodiversity-based farming; practical ecosystem education at farm scale

Collaborative Tree Census Project — Mysuru Urban Forest Documentation: NSS Students Educate Community Members on Urban Tree Species and Ecosystem Services (Oct 2025–Mar 2026)

JSSCPM + CFAL (Dr. Smitha Hegde) + MGP (Dr. Bhamy Shenoy): systematic field documentation of Mysuru urban trees; community members learn species identification, ecological significance, biodiversity value; 5-month sustained community-university partnership

World Coconut Day — ICAR JSS KVK: Farmer-Scientist Interaction, Biological Pest Management (Predatory/Parasitic Organisms), 150+ Farmers on Coconut Agroecosystem (4 Sep 2025)

JSS KVK World Coconut Day: NBAIR Bengaluru scientists train farmers on biological pest management (wild insect predators and parasitic organisms); drone demonstration; 150+ farmers learn coconut agroecosystem management preserving biodiversity

7. JSSDCH ECO CLUB AND JSSCPO TRIBAL COMMUNITY ECOSYSTEM EDUCATION

7.1 JSSDCH Eco Club — Campus and Community Ecosystem Education

The **Eco Club at JSS Dental College and Hospital** (led by Dr. Premalatha B.R. and Dr. Thippeswamy H.M.) delivers ecosystem education through student-initiated environmental programmes on campus and in the local community. The Club promotes **environmental consciousness, green campus drives, and sustainability** — engaging students as community ecosystem educators. JSSDCH has also established a **Medicinal Plants Garden** and organises medicinal plants exhibitions at JSS Urban Health Centre, bringing wild plant ecosystem education to the urban health community.

MEDICINAL PLANTS GARDEN: *Established on campus; promotes eco-friendly cultivation; exhibitions at JSS Urban Health Centre — community healthcare setting for ecosystem education*

ENVIRONMENTAL SCIENCES CURRICULUM: *UGC-mandated Environmental Sciences in all BDS courses; World Environment Day and World Water Day programmes*

COMMUNITY ECOSYSTEM EDUCATION: *Eco Club drives reach students, staff, and campus visitors with ecosystem conservation messages; green campus as a community demonstration*

7.2 JSSCPO — Tribal Community Ecosystem Education (NSS Special Camp, Apr 2026)

TRIBAL EDUCATION 29 Mar–4 Apr 2026	**NSS Special Camp — Biodiversity Conservation Trust + Forest Department Ecosystem Education for Tribal Communities**
	Audience: Tribal communities of Thengumarahada, Alimayar, and Kallampalayam (Nilgiris tribal villages) — the most marginalised and ecologically significant community audience; NSS volunteers as learners and educators simultaneously
	Ecosystem / Flora & Fauna Content: Biodiversity Conservation Trust interactive session (2 Apr 2026): wild plant identification (soap nut, Seemai Karuvelam, Albizia); ecosystem restoration and wildlife habitat management; Forest Department insights on regional flora, fauna, geographic features, and ecosystem conservation; tribal community sustainable lifestyle practices as indigenous ecological knowledge exchange
	Forest Department officials provided ecosystem knowledge; Biodiversity Conservation Trust experts led sessions; NSS volunteers participated and transmitted learning to tribal communities

WILD FLORA: *Soap nut (Sapindus emarginatus), Seemai Karuvelam (Prosopis juliflora — an important invader to manage), Albizia species — specific wild native plant identification*

WILD FAUNA: *Wildlife habitat management; Forest Department insights on fauna of the region; ecosystem ecology connecting plant species to wildlife populations*

INDIGENOUS ECOLOGICAL KNOWLEDGE EXCHANGE: *Tribal communities shared their sustainable lifestyle and environmental practices — a bidirectional ecosystem education exchange recognising indigenous knowledge as valid ecosystem science*

SDG 15.2.4 ALIGNMENT: *Education reaching the most ecologically embedded communities (tribal populations living within the Nilgiris biosphere) — the highest-relevance community ecosystem education in the portfolio*

JSSDCH Medicinal Plants Garden and Eco Club — Community Ecosystem Education at JSS Urban Health Centre: Wild Plant Conservation Awareness for Healthcare Community

JSSDCH: Eco Club (Dr. Premalatha B.R., Dr. Thippeswamy H.M.); medicinal plants exhibitions at JSS Urban Health Centre reaching healthcare professionals and patients; green campus drives; UGC Environmental Sciences in all BDS programmes

JSSCPO NSS Special Camp — Biodiversity Conservation Trust Interactive Session: Tribal Community Ecosystem Education, Wild Plant Identification, Forest Dept. Flora-Fauna Insights (Apr 2026)

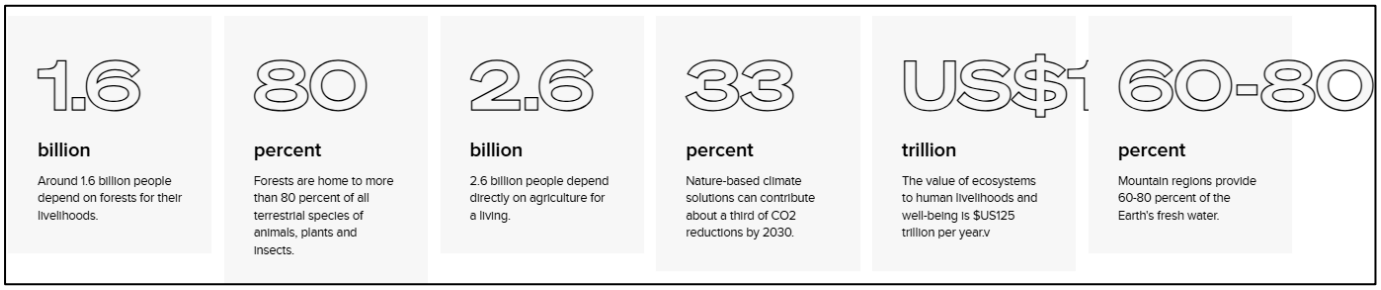
Tribal villages Thengumarahada/Alimayar/Kallampalayam: Biodiversity Conservation Trust experts on ecosystem restoration; Forest Dept. regional geography, flora, fauna, ecosystem conservation; soap nut/Albizia/Seemai Karuvelam seed

collection; tribal sustainable practices as indigenous ecological knowledge

8. MASTER EVIDENCE TABLE — INDICATOR 15.2.4

Programme	Date	Format	Community Audience	Wild Flora/Fauna Ecosystem Content	Institution	Formal Response
M.Sc. Environmental Sciences — dedicated degree	Ongoing (annual cohort)	Formal degree programme	National community of environmental professionals	Water quality ecosystems; air quality; climate change; green technology — comprehensive ecosystem science	JSS AHER (university-wide)	Yes — formal "Yes" response in JSSCPM 15.2.4
Medicinal Plants Exhibition — 128th Flower Show, Ooty	May 2026	Public exhibition	20,000+ visitors: tourists, public, students, researchers, healthcare professionals	Nilgiris wild medicinal plant species; conservation status; sustainable utilisation; eucalyptus + gaultheria oil from wild plants	JSSCPO (TIFAC-CORE + Pharmacognosy)	Yes — JSSCPO 15.2.4 formal section
One Health Community Awareness Rally — "One World, One Health"	3 Nov 2025	Community rally + public outreach	Mysuru general public — Medar Block, Bamboo Bazar	Zoonotic diseases (wildlife-human ecosystem interface); AMR in environment; human-animal-environmental ecosystem interconnection	JSSMC (Dept. Community Medicine, IAPSM-ICMR)	Yes — documented in Good Health source
One Health CME — IAPSM-ICMR initiative	21 Nov 2025	Continuing Medical Education	300 MBBS students + faculty + PG students	Emerging infectious diseases (wildlife interface); environmental health (ecosystem = human health); urbanisation ecosystem impacts	JSSMC	Yes — Good Health source document
Collaborative Tree Census Project — Mysuru city	12 Oct 2025–1 Mar 2026	Community-university field collaboration	Mysuru residents, CFAL, Mysore Grahakara Parishat (civic NGO)	Urban tree biodiversity; species identification; ecosystem services; urban forest conservation	JSSCPM (NSS + CFAL + MGP)	Yes — JSSCPM 15.2.4 documented activities
Biodiversity Conservation Trust — Tribal Ecosystem Education	2 Apr 2026	Interactive field session + NSS camp	Tribal communities of Thengumarahada, Alimayar, Kallampalayam	Wild plant identification (soap nut, Albizia, Seemai Karuvelam); wildlife habitat	JSSCPO (NSS + Biodiversity Conservation Trust + Forest Dept.)	Yes — JSSCPO 15.2.3/15.2.4 documented

				management; regional flora-fauna-ecosystem		
World Coconut Day — farmer-scientist interaction + drone demo	4 Sep 2025	Training + demonstration	150+ farmers including women farmers	Coconut agroecosystem; predatory/parasitic organisms for biological pest management (wild fauna); integrated farming biodiversity	ICAR JSS KVK (+ IAT + NBAIR Bengaluru)	Yes — KVK ecosystem education for community
National Horticulture Day + Beekeeping Training	8 Aug 2025	Training programme	70+ farmers + KVK staff	Honeybee species (wild and managed bees); bee biology; ecosystem role of pollinators; honeybee decline documentation	ICAR JSS KVK	Yes — KVK 2025–26 activities
Legumes Technology Day — multiple farmer-scientist events	Oct 2025	Farmer training day	250+ farmers + 89 JSS women students	Legume biodiversity; soil nitrogen ecosystem (Rhizobium); biodiversity in pulse agro-ecosystem	ICAR JSS KVK	Yes — KVK SDG 2.5.2 documentation
Prakriti Green Club — ecosystem education for students + community	Jan 2026 (inauguration), ongoing	IQAC student club with community outreach	JSSCPO students, visitors, local community	Biodiversity conservation; environmental stewardship; Nilgiris ecosystem awareness	JSSCPO	Yes — JSSCPO 15.2.4 section
Eco Club — green campus + community ecological preservation	Ongoing 2025–26	Student-led community outreach	JSSDCH students, staff, campus visitors	Ecological preservation; green campus drives; biodiversity awareness	JSSDCH (Dr. Premalatha B.R., Dr. Thippeswamy H.M.)	Yes — JSSDCH SDG 15 source
SLSM and Dept. of Yoga — formal "Yes" response with 3 weblinks	2025–26	Multiple documented events	Community (confirmed with three NOTICESID weblinks)	Ecosystem education confirmed with three weblinks	SLSM + Dept. of Yoga	Yes (formal) — NOTICESID=7251, 7180, 6534





Publications

1. S Rajeshwari, Abu Safana Biswas, Suresh J, Erica Alves, Gurupadayya BM, Archana Pilli, Subba Rao M V S S T, Pattaluchetty P. Phytochemicals from corn plant as Anti-Inflammatory Agents: Molecular Insights and Therapeutic Perspectives. Pharmacological Research - Natural Products. 2026 Jan;100497. doi:10.1016/j.prenap.2026.100497.
2. Saraswathi S, Venkataravanappa JT, Nambiar C, et al. Plant-derived neuroprotective compounds and nanoformulations targeting Parkinson's disease: a semi-systematic review of mechanisms and

therapeutic potential. Metabolic Brain Disease,2026 May;41:101. doi:10.1007/s11011-026-01868-

Sl No	Title of the project	Principle investigator(s)	Department(s)	Funding agency	Amount sanctioned
1.	Phytoremediation of indoor air pollution in urban homes to improve air quality using innovative-sustainable technology-based plant wall air filtration system	PI: **Dr. Rajesh Kumar T**	Biochemistry	ICMR	40,31,649.00
2.	Development of millet-based dietary fiber for protection of allergic asthma by modulating gut microbiome-derived short-chain fatty acids	PI: **Dr. Kiran** Co-PI: **Dr. Rajesh Kumar T**	School of Life Sciences Biochemistry	ICMR	40,00,000.00

y.

3. Mouvanal Sajana, Mutthuraj Dasegowda, MS Brunda A, K R Arjun, Kanthesh M Basalingappa. Emerging Research on Bioactive Compounds and Cancer Stem Cells. Medicinal Plants and Their Bioactives in Human Diseases. 2025 Oct;293-329. doi:10.1007/978-3-032-01356-9_13.

Research Projects

SUSTAINABLE AGRICULTURE (Kitchen Garden in the hostel campus)

The kitchen garden in the hostel campus promotes sustainable agriculture by encouraging the cultivation of fresh vegetables and plants using eco-friendly practices. It supports environmental conservation, enhances biodiversity, and creates awareness about sustainable food production among students. The initiative also reduces the environmental impact associated with food transportation and promotes healthy living. Through this practice, JSS Medical College reinforces its commitment to SDG 13 – Climate Action by encouraging sustainable resource use and environmental stewardship



Water Observation Community

Regular water and conducted on college, and by the team Department of Medicine.

Sanitation by the Medicine team.

assessments of sanitation are the hospital, hostel premises from the Community

The hospital and college premises have well-established water disinfection and RO facilities. Water is treated with liquid chlorine using a 12% Sodium Hypochlorite solution.



Label with tank capacity and dates of storage tank cleaning.



Chlorination Pump

World Hand Hygiene Day 2026

As part of its commitment to promoting sanitation, hygiene, and infection prevention, JSS Hospital observed World Hand Hygiene Day on 5 May 2026**,** organized by the Infection Prevention and Control Committee (IPCC**)** in association with the Department of Microbiology and the Special Interest Group

(SIG): Building Healthcare Resilience for Combating Hospital-Acquired Infections**.** The program aligned with the World Health Organization's *"Save Lives: Clean Your Hands"* campaign and aimed to reinforce effective hand hygiene practices among healthcare professionals while strengthening the institution's commitment to patient safety and infection prevention. The event featured awareness sessions on WHO-recommended hand hygiene guidelines, reinforced the 'Five Moments for Hand Hygiene', recognized hospital departments demonstrating exemplary hand hygiene compliance, and emphasized the critical role of hand hygiene in reducing healthcare-associated infections. The program also promoted a culture of patient safety and institutional excellence in infection prevention and control, directly contributing to the objectives of SDG 6: Clean Water and Sanitation, particularly Target 6.2 on improving hygiene practices.





Foundation Course – Biomedical Waste Management and Hand Hygiene

As part of the Foundation Course held on 3 October 2025, the Department of Microbiology organized orientation sessions on Biomedical Waste Management and Hand Hygiene to instill essential infection-prevention and patient-safety practices among newly admitted medical students. The sessions provided comprehensive training on the Biomedical Waste Management Rules, 2016**,** emphasizing the importance of color-coded segregation, safe handling and disposal of biomedical waste, and compliance with statutory guidelines. Participants were also sensitized to the WHO Hand Hygiene Guidelines**,** including the importance of hand hygiene in preventing healthcare-associated infections. Additional topics included needle-stick injury prevention**,** occupational exposure risks, and post-exposure prophylaxis (PEP) protocols, equipping students with the knowledge and skills required to maintain a safe healthcare environment. Through this initiative, the institution reinforced responsible waste management practices and promoted a culture of hygiene and infection prevention, contributing to the achievement of SDG 6: Clean Water and Sanitation, particularly Targets 6.2 (sanitation and hygiene) and 6.3 (reducing pollution through safe waste management)**.**



Gamified Hand Hygiene Education

As part of its innovative teaching initiatives during the 2025 academic year, the Department of Microbiology introduced gamified hand hygiene education to promote infection prevention and improve students' understanding of hygiene practices. The department developed creative educational tools, including hand hygiene poems and other gamified learning resources, to make learning interactive, engaging, and memorable. These innovative approaches enhanced students' awareness of proper hand hygiene practices, reinforced the importance of infection prevention and control, and encouraged long-term retention of essential public health concepts. By integrating active learning methodologies into microbiology education, the department fostered behavioral change and strengthened students' commitment to safe healthcare practices, thereby contributing to SDG 6: Clean Water and Sanitation, particularly Target 6.2, which promotes adequate sanitation and hygiene for all.

Plastics Policy:

JSS AHER has adopted a Plastic Policy to protect the environment by minimizing plastic use on campus. The institution is committed to minimizing plastic waste and promoting a clean, healthy and sustainable environment by reducing the use of single-use plastics and encouraging environmentally responsible practices.

The main aim of the policy is:
1. Minimize the use of plastic on campus by auditing & setting standards, i.e., banning plastic less than 50 microns & use of only recyclable plastic on campus.
2. Encourage innovative recycling methods for recycling & work with the stakeholders to develop capability & capacity for recycling of plastic. Work in partnership with research bodies, universities, suppliers & other stakeholders to meet these policy objectives.
3. Maintaining the housekeeping standards at the campus to address plastic litter. Ensure proper segregation & collection of plastic waste.
4. Expanding the campaign by promoting the plastic hazard program to promote awareness programs about the minimization of use of plastic on the campus.
5. Support & encourage staff, students and the community to remove plastic waste from the environment.
6. The policy mainly relates to Swatchh Bharat Mission (Urban) guidelines, Govt. of India &

National conservation strategy and policy statement on environment and development.

Plastic Free Campus



Signage - Ban on use of plastics inside the JSS AHER campus premises

NSS – Swachhatha Abhiyana: 10-01-2026

Swachhatha Abhiyana was organized by Mysuru City Corporation at Kukkarahalli Kere on the eve of “Swatch Sarvekshan 2025-26” on 10-01-2026. The event aimed at promoting hygiene and environmental awareness among the general public. The event commenced at 7:00 am and saw enthusiastic participation from >300 students eager to contribute to this noble cause. From JSS MC, 15 medical students joined the event.

Throughout the morning, the students collected and filled numerous garbage bags, clearing the area of plastic waste, wrappers, and other debris. This hands-on experience not only enhanced the students' understanding of the importance of cleanliness but also highlighted the significant impact collective action can have on maintaining a sustainable environment.

The drive concluded with a brief reflection session, during which participants shared their experiences and discussed the need for continued efforts to promote cleanliness. This NSS initiative aligns with the broader goals of the Swachh Bharat mission, inspiring future generations to prioritize cleanliness and environmental stewardship. The event was a resounding success, leaving a lasting impression on both the students and the community.

The event was coordinated by Dr Manu G, NSS Program Officer, JSSMC, Mysuru.









Biomedical Waste Management









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Lecture series on Disposal of Biomedical Waste & Hazardous materials.

The series of sessions commenced with Dr. Preethika Ravi, Senior Resident in the Department of Microbiology, who delivered an insightful overview of biosafety. She explained the objectives of biosafety, containment principles, risk groups, hazardous procedures, and the four biosafety levels. She further discussed biomedical waste categories, the consequences of improper disposal, the color-coded segregation system mandated under the Biomedical Waste Management Rules, 2016, and commonly used waste management methods.

The next session, by Dr. Arun M., Professor in the Department of Forensic Medicine and Toxicology, focused on Reflective Writing. Through an activity-based approach, he explained the concept, layers, levels, and models of reflection. He highlighted its role in enhancing clinical reasoning, bridging theory and practice, improving patient care, and fostering lifelong learning.
Sri S. R. Satish Chandra, Administrative Officer, JSS Medical College, delivered a motivating talk on Positive Attitude, emphasizing optimism, resilience, adaptability, and effective stress management.

This was followed by Dr. Sujatha S R, Assistant Professor, Department of Microbiology, who detailed hand hygiene practices, WHO guidelines, needle-stick injuries, occupational exposure risks, and post-exposure prophylaxis recommendations.

The day concluded with Kannada language learning by Dr. Bheemaraju Eeregowda, Assistant Professor, School of Life Sciences, JSSAHER, who introduced essential vocabulary and encouraged interactive peer learning.



Biosafety Institutional Committee (IBSC)

In accordance with the Rules for the use and storage of hazardous microorganisms/ genetically engineered organism/plants/cells, Government of India, under the Environment Protection Act, 1986, has enforced rules and regulations on the biosafety and biocontainment of hazardous, recombinant DNA, synthetic nucleic acids, and use of hazardous biomaterials of any kind. Under the guidelines of this Act, JSS Academy of Higher Education & Research, Mysuru, has constituted an Institutional Biosafety Committee (IBSC) in accordance with the DBT guidelines of the Government of India.

Mission

The primary mission of the IBSC is to ensure the safety of faculty and researchers involved in biological research at our institute, and to protect the general public and the environment from the adverse consequences of the proposed research.

Purpose of IBSC

The IBSC is responsible for reviewing projects that involve, but are not limited to, recombinant DNA, RNAi, pathogens, human materials (specimen repositories) and other potentially infectious materials, as well as transgenic animals, genetically modified plants and seeds, CRISPR and Gene knockouts, and bacterial- and viral vector-based transfections. The IBSC provides recommendations for controlling biohazards associated with the use of microbiological agents, their vectors, and related research.

The IBSC will determine approval or make recommendations regarding the proposed experiments by reviewing the application submitted by the principal investigator, along with supporting materials. This review and oversight involve independent assessment of the proposed biosafety containment level for the work and, through coordination with the biological safety officer, assessment of the facilities, procedures, practices, training, and expertise of the personnel involved in the research.

Specifically, the IBSC will review research proposals with the following potentially hazardous biological agents and experiments

Infrastructure

Center for Experimental Pharmacology and Toxicology, JSS Academy of Higher Education & Research (JSS AHER) has endowed an extensive ABSL2 preclinical facility “Center for Experimental Pharmacology and Toxicology” to support the comprehensive research activities of its constituent colleges (medical, dental, pharmacy, life sciences) and departments. The facility is licensed (261/PO/ReBi/S/2000/CPCSEA) by the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Government of India, to conduct experiments on small-animal models and to breed for in-house use. The vivarium is located in a serene, peaceful setting on the University campus. A built space of 7000 sq ft primarily comprises a rodent barrier facility, small-animal clinicopathology labs, and supportive suites. The animal facility plant is built in compliance with the guidelines of the National Institutes of Health (NIH), USA, and CPCSEA, Government of India

Physical Plant

• PT is a BSLII barrier facility with dual corridors, temperature, humidity, light, noise, and differential air pressure monitored 24X7
• Epoxy terrazzo-coated floor, concrete masonry walls, and moisture-resistant ceilings
• Facility is provisioned with isolated ventilated cages
• Clinicopathology, test item control office, archive on site

Animal care is monitored on a daily basis including weekends and holidays

• Health monitoring within the animal facilities is ensured through a sentinel program, supplier reports, and environmental testing by trained veterinarians
• Sterilised Bedding, food, and portable mineral water
• Consistent healthcare from study initiation to study completion
• Practice in force on humane endpoints policy to minimize pain and discomfort

Experience with and equipped to conduct studies in a wide array of species

• Rat
• Mouse
• Rabbit
• Guinea Pig

Scientific services- With cutting-edge technologies in scientific research along with a wide range of experienced professionals, CPT alliances with its partners to bring forth an endless variety of disease models and preclinical services in the following areas- Pharmaceuticals, Medical devices, Agrochemicals and Pesticides, Food products and Nutraceuticals, Folklore Remedies

Collaborations

International

• NIAAA, NIH, USA
• Macquarie University, Australia
• Sultan Qaboos University, Oman
• University of Saskatchewan, Canada
• Seton Hall University, USA
• University of Johannesburg

National

• CSIR Central Food Technological Research Institute, Mysuru
• CSIRIITR, Lucknow
• IIT, Madras
• Department of Chemistry, University of Delhi
• National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore
• Birla Institute of Technology and Science, Hyderabad
• Annamalai University, Tamil Nadu

Animal House facilities



Plants on the campus





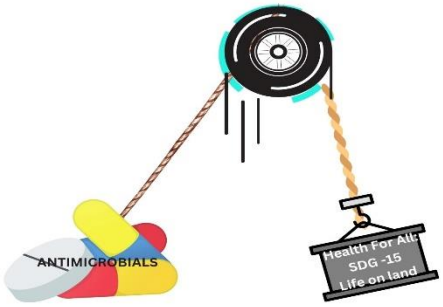
Related Activities Conducted
AMR Awareness Week (18th–23rd November 2024)

Antimicrobial resistance (AMR) has become a significant global health challenge, requiring urgent attention to promote rational antibiotic use. JSS Medical College and Hospital for AMSP actively contributed to AMR Awareness Week (18th–23rd November 2024) by organizing a series of innovative, interactive activities, including games, talks, and training sessions, to educate diverse groups about the irrational use of antimicrobials and strategies to mitigate AMR. The initiatives targeted healthcare professionals, students, and the community to raise awareness of antimicrobial resistance and enhance understanding of prudent antimicrobial use, particularly in clinical and community settings, using a One Health approach.









Innovative Teaching for Antimicrobial Stewardship (2026)

The Department of Microbiology adopted innovative gamified and origami-based teaching methodologies to strengthen students' understanding of antimicrobial stewardship and infectious diseases. Interactive educational tools covering MRSA and MSSA infections, enteric fever, acute undifferentiated fever, lower respiratory tract infections, sepsis, and rational antibiotic use enhanced student engagement, diagnostic reasoning, and awareness regarding appropriate antimicrobial use. These initiatives support the One Health approach by promoting responsible antimicrobial practices and awareness of antimicrobial resistance.

Faculty Capacity Building in Antimicrobial Stewardship (20/01/2026)

As part of efforts to strengthen institutional capacity in antimicrobial stewardship and support the One Health approach, four faculty members from the Department of Microbiology, JSS Medical College, Mysuru—Dr. Sowmya G.S., Professor; Dr. Raghavendra Rao, Professor; Dr. Vidyavathi B.C., Associate Professor; and Dr. Neetha S. Murthy, Assistant Professor—successfully completed the Stanford Medicine Antimicrobial Stewardship Course on 20 January 2026. The program enhanced faculty expertise in the judicious use of antimicrobials, antimicrobial resistance surveillance, infection prevention, and evidence-based stewardship practices, thereby contributing to responsible management of microbial ecosystems and supporting the One Health principles.



Sustainable Development Goal 15 strives to ensure the protection, restoration, and sustainable utilization of terrestrial ecosystems, including the responsible management of forests, the fight against desertification, the reversal of land degradation, and the preservation of biodiversity. Preserving the variety of life on land necessitates targeted endeavors to conserve, restore, and sustainably utilize terrestrial and other ecosystems. Goal 15 focuses on sustainable forest management, land restoration, desertification control, the reduction of degraded habitats, and the cessation of biodiversity loss. Collectively, these efforts aim to secure the long-term benefits of land-based ecosystems, including sustainable livelihoods, for future generations.

The nine outcome targets include conserving and restoring terrestrial and freshwater ecosystems, ending deforestation and restoring degraded forests, combatting desertification and restoring degraded land, ensuring the conservation of mountain ecosystems, protecting biodiversity and natural habitats, safeguarding access to genetic resources and ensuring fair sharing of benefits, eliminating poaching and trafficking of protected species, preventing the invasion of alien species in terrestrial and aquatic ecosystems, and integrating ecosystem and biodiversity considerations in governmental planning.

The three means of achieving targets involve increasing financial resources for the conservation and sustainable use of ecosystems and biodiversity, providing financial incentives for sustainable forest management, and combating global poaching and trafficking.

Human beings rely on the Earth and the oceans for their existence. This goal aims to establish sustainable livelihoods that can be enjoyed by future generations. Plant life, which constitutes 80% of the human diet, is a crucial economic resource through agriculture. Forests, covering 30% of the Earth's surface, provide essential habitats for countless species, offer clean air and water, and play a critical role in combating climate change. Terrestrial ecosystems provide various goods, such as raw materials for construction and energy, as well as ecosystem services like carbon capture, soil quality maintenance, habitat provision for biodiversity, water quality regulation, water flow regulation, and erosion control, which reduce the risks of natural disasters and help regulate climate while sustaining agricultural productivity. Preserving these ecosystems significantly supports efforts in climate change mitigation and adaptation. Protecting our land resources must be a top priority to facilitate the transition towards a more sustainable society. It is crucial to adopt an inclusive approach that promotes the conservation and sustainable utilization of biodiversity across different sectors such as agriculture, forestry, fisheries, and tourism. These sectors are interconnected with food security, economic growth, human health, improvements in living conditions, and the enjoyment of a healthy environment. Therefore, the preservation of biodiversity enhances the provision of these vital services.

Land and forests form the bedrock of sustainable development. Forests play a vital role in addressing climate change, safeguarding biodiversity, ensuring food security, and serving as habitats for indigenous communities. These natural reserves are home to over 80% of terrestrial animal, plant, and insect species. Furthermore, approximately 1.6 billion people, including 70 million indigenous individuals, rely on forests for their livelihoods.

Our existence and well-being depend on both land and sea. Plants, which constitute 80% of the human diet, and agriculture, as a significant economic resource, are essential for our sustenance. Forests, covering 30% of the Earth's surface, serve as crucial habitats for millions of species, purvey clean air and water, and play a pivotal role in combatting climate change. Despite the protection of 15% of land, biodiversity remains under threat. Illegal trade has endangered nearly 7,000 species of plants and animals. Wildlife trafficking not only depletes biodiversity but also fosters insecurity, fuels conflicts, and nurtures corruption.

Urgent measures are required to curtail the loss of natural habitats and biodiversity, which are part of our shared heritage and contribute to global food and water security, climate change mitigation and adaptation,

as well as peace and security. Hence, Goal-15 aims to safeguard, restore, and promote sustainable utilization of terrestrial ecosystems, ensure the sustainable management of forests, combat desertification, reverse land degradation, and halt the loss of biodiversity. These efforts are instrumental in fostering the flourishing of life on Earth.

Green campus initiatives

The Institution also has included a subject Environmental Sciences in all courses as stipulated by UGC and organizes Environment Day and Water Day. The Institution believes in preserving traditional medicine and has established medicinal plants garden and promotes eco-friendly cultivation practices by organizing medicinal plants exhibition in JSS Urban Health Centre. To meet the needs and sustainable management of fresh water, the rainwater harvesting, and utilization systems have been established in all the campuses of the university to aid towards the greater objectives of water management and conservation and increasing recharge of groundwater by capturing and storing rainwater, rainwater harvesting from rooftop run-offs and natural water bodies and the community development. The below mentioned models are established in the various buildings based on the size of the building and the extent and topography of the land. • Simple roof water collection systems - Most of the rooftop rainwater harvesting has been completed by constructing five water storage structures with a storage capacity of 1000 m^3. • Land surface catchments – a simple way of collecting rainwater by retaining the flows (including flood flows) of small creeks and streams in small storage reservoirs (on surface or underground) created by low-cost dams • Collection of storm water – The surface runoff collected in storm water ponds/ reservoirs is subject to a wide variety of contaminants and every effort is made to keep these catchments clean.

- Rain water harvesting and retention facility in the campus
- Collection of storm water and every effort is made to keep these catchments clean.
- Save water reminders

Centre For Experimental Pharmacology and Toxicology JSS Academy of Higher Education & Research (JSS AHER). Centre For Experimental Pharmacology and Toxicology JSS Academy of Higher Education & Research (JSS AHER) has endowed an extensive ABSL2 preclinical facility “Centre for Experimental Pharmacology and Toxicology” to support the comprehensive research activities of its constituent colleges (medical, dental, pharmacy, life sciences) and departments. The facility is licensed (261/PO/ReBi/S/2000/CPCSEA) by Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Government of India, to conduct experiment on small animal models and breeding for in-house use. The vivarium is in a serene and peaceful ambiance within the University campus. A built space of 7000 sq ft primarily constitutes rodent barrier facility, small animal clinicopathology labs and supportive suites. Animal facility plant is built in compliance with guidelines of National Institutes of Health (NIH), USA and CPCSEA, Govt of India

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• Seton Hall University, USA
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• IIT, Madras
• Department of Chemistry, University of Delhi
• National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore
• Birla Institute of Technology and Science, Hyderabad
• Annamalai University, Tamil Nadu

Biochemistry lab



PPE changing rooms



Rodent room



Clean corridor



Cage autoclave



IVC cage





Greenery in campus











Smart Campus Initiatives:

- Replacement of 50% of regular bulbs with LED bulbs
- Landscaping around the college
- Providing water purifiers in every floor of the institution
- Initiation of G health Digital store software

- Installation of two effluent treatment plants
- Software for patient management and payment

Programs aligning to SDG 15

Publications in alignment with Goal 15

1. Koduru Sravani, Ashwin Prabhu, Pallavi Nanaiah, Archana R Naik, Anupama Aradya, Pradeep Chandra K - Animal models in Periodontal research: Insights into disease pathogenesis and therapeutic strategies - RGUHS Journal of Dental Sciences - Jun 2025; 17(2):1-6 ISSN: 0976-9439, National In Alignment with Goal 15

2. Krubaa P, Renuka Sharma, Anitha Subbappa, Swathi Priya AK, Suchitra MR, Parthasarathy S - Evaluating the Effectiveness of Nutraceutical as supportive Therapies in Cancer Treatment - Health Leadership and Quality of life - July 2025; 4():605 ISSN:3008-8488, International In Alignment with Goal 15.

3. Sanjay C J - Burden of 375 diseases and injuries, risk attributable burden of 88 risk factors, and healthy life expectancy in 204 countries and territories, including 660 subnational locations, 1990-2023: a systematic analysis for the Global Burden of Disease study 2023 - Lancet - October 2025 :18(406) 1873-1922 ISSN:0140-6736, International In Alignment with Goal 15.

4. Payal Tripathi, Shubham Patel, Evolina Dutta, Sakshi, Sunila B S, Ganiga Channaiah Shivakumar - The Dentist in palliative care addressing oral health for holistic end of life support - Journal of Pharmacy and Bioallied Sciences - December 2025;17(4)-223-225 ISSN:0975-7406, International In Alignment with Goal 15.

5. Indira M Devarj, Girish MS, Sushma K, Brahmananda Dutta, Kanika S Dhull - Oral Health Status and oral Health related quality of life among children born preterm A cross sectional study - International journal of clinical pediatric Dentistry - December 2025: 18(12)1454-1460 ISSN:0974-7052, International In Alignment with Goal 15.

Programs aligning to SDG 15

Best Out of Waste Competition Conservative Dentistry and Endodontics Day 2026



The judges are reviewing the competition entries to determine and announce the prize winners

The Department of Conservative Dentistry and Endodontics, JSS Dental College and Hospital, organized a “Best Out of Waste” Competition on 25th February 2026 as part of the celebrations of Conservative Dentistry and Endodontics Day (5th March 2026).

Centered on the theme “Minimal Waste, Maximum Restoration!”, the event reflected the core philosophy of conservative dentistry — preserving maximum tooth structure while minimizing unnecessary removal — while also promoting environmental responsibility and sustainability.

The event was hosted by Dr. Suneeth Shetty (Reader), Dr. Sowmya (Senior Lecturer), and Dr. Harini (Tutor) under the guidance of the Head of the Department, Dr. Ashwini T.S. The program was efficiently coordinated by postgraduate students Dr. Deepti, Dr. Gouri, and Dr. Kartik.

A total of 31 teams comprising 2nd, 3rd, and 4th year BDS students participated enthusiastically. Participants showcased exceptional creativity by transforming discarded materials into innovative models, artwork, and functional items, many incorporating dental concepts and conservation principles.

The competition successfully promoted sustainability, innovation, teamwork, and the philosophy of minimal intervention dentistry. The department expresses its sincere gratitude to the management of JSS Dental College and Hospital and JSS Academy of Higher Education & Research for their continued support, and to the Principal, Dr. Dhakshaini M. R., for her guidance and encouragement.

International Yoga Day 2026



JSS Dental College & Hospital, Mysuru, celebrated International Yoga Day 2026 with great enthusiasm on its campus. The programme was organized by the National Service Scheme (NSS) Unit of the institution with the objective of promoting physical fitness, mental well-being, and holistic health among students, faculty members, and non-teaching staff.

The event was graced by Dr. Dhakshaini M. R., Principal, JSS Dental College & Hospital. Speaking on the occasion, Dr. H. P. Jaishankar, Vice Principal, emphasized the importance of incorporating yoga into daily life to achieve physical, mental, and emotional balance. He highlighted the significance of International Yoga Day as a global movement that encourages healthy living and overall wellness.

The yoga session witnessed the participation of 40 students and staff members. The session was conducted by Mr. Maltesh, Dental Hygienist at JSS Dental College & Hospital and a certified yoga and meditation practitioner. He guided the participants through various yoga asanas, pranayama exercises, and meditation techniques, explaining their benefits in improving flexibility, concentration, stress management, and overall health.The programme was coordinated by Dr. Sharath Wodeyar, NSS Programme Officer and Faculty, Department of Periodontology, along with Dr. Alok U. A., Assistant NSS Programme Officer and Faculty, Department of Orthodontics, with valuable support from Dr. Ravi M. B., Faculty, Department of Prosthodontics.

Participants actively engaged in the session and appreciated the initiative, which reinforced the importance of yoga as an effective means of achieving a healthy and balanced lifestyle. The programme concluded with a vote of thanks and a collective pledge to incorporate yoga into daily life for personal well-being and community health

World No Tobacco Day 2026







In observance of World No Tobacco Day 2026, a comprehensive awareness campaign was organized to educate the public about the harmful effects of tobacco use, tobacco smoking, and smokeless tobacco exposure. The campaign benefited more than 250 participants, including schoolchildren, degree college students, and members of the general public

Following the directives of the Government of India and the 2026 campaign theme, “Unmasking the Appeal – Countering Nicotine and Tobacco Addiction,” the Departments of Oral Medicine & Radiology, Periodontics, and Public Health Dentistry, in collaboration with the Tobacco Control and Cessation Centre (TCC), JSS Dental College & Hospital, Mysuru, organized and participated in a series of awareness activities on 31st May 2026

As part of the observance, Dr. Suman Basavaraj, Professor and Head, Department of Periodontics, coordinated with All India Radio (AIR) for a special radio talk. Dr. Avinash B.S. delivered an

informative session on the World No Tobacco Day theme and highlighted the role and services of Tobacco Control and Cessation Centres

Several community outreach activities were conducted in collaboration with the Primary Health Centre (PHC), Suttur, under the coordination of Dr. Poornima S.P., Staff and In-charge, JSS Hospital Dental Unit, Suttur. The programme was graced by Dr. Ramya M., Medical Officer, PHC Suttur, and Mr. Nagaraj, Head Master, Government School, Suttur, as Guests of Honour

A public awareness rally (Jatha) involving government school students, teachers, and ASHA workers was organized to spread awareness about the detrimental effects of tobacco use. A human chain was also formed to convey a strong anti-tobacco message to the public. An educational health talk was delivered emphasizing the adverse health consequences of nicotine addiction. The economic burden imposed on families due to tobacco consumption

Information, Education, and Communication (IEC) materials were procured from the District Health and Family Welfare Office (DHO) and distributed among the public. Oral healthcare products and educational pamphlets promoting tobacco cessation and oral hygiene were also distributed

The programme was conducted under the guidance and support of Dr. Dhakshaini M.R., Principal, JSS Dental College & Hospital, Dr. Karthikeya Patil, Professor and Head, Department of Oral Medicine & Radiology, Dr. Thippeswamy H.M., Professor and Head, Department of Public Health Dentistry, and was coordinated by Dr. Maurya M., Member, Tobacco Control and Cessation Centre (TCC)

The event successfully raised awareness regarding the health risks associated with tobacco use and reinforced the importance of tobacco cessation for a healthier

International Meditation Day



The Department of Periodontology commemorated International Meditation Day on Saturday, 20th December 2025, by organizing a refreshing and meaningful meditation session aimed at promoting mental well-being and mindfulness among staff members.

The session was led by Mr. Maltesh, Dental Hygienist, Department of Periodontology, a trained meditation practitioner. Utilizing singing bowl and rain stick meditation techniques, the session offered a deeply calming and immersive experience to the 30 participants in attendance. The tranquil environment allowed participants to momentarily step away from daily professional pressures and reconnect with themselves.

Through simple explanations and guided practice, Mr. Maltesh highlighted the significance of mindfulness and meditation in enhancing mental clarity, emotional balance, and overall well-being. The session fostered a sense of relaxation, awareness, and inner calm among the participants.

The event was thoughtfully initiated under the guidance of Dr. Suman Basavaraju, Head of the Department of Periodontology, whose vision and leadership played a pivotal role in ensuring the success and impact of the program. The active participation of staff members from various roles further enriched the collective spirit of the event, creating a warm, supportive, and harmonious atmosphere.

Eco club 2025



The Eco Club at JSS Dental College and Hospital (JSSDCH), Mysuru, is a student-driven initiative focused on promoting environmental consciousness, green campus drives, and sustainability. Led by faculty coordinators like Dr. Premalatha B.R. and Dr. Thippeswamy H.M., the club actively engages students in ecological preservation.

Fire Safety Training





Training Program: Fire Safety Training Program (Code Red)
Duration: 2 Days
Dates: July 21, 2025 & July 22, 2025
Venue: Fire Station Mysuru
Training Type: Theory and Hands-on Practical

EXECUTIVE SUMMARY

A comprehensive two-day Fire Safety Training Program was successfully conducted for JSS Dental College & Hospital staff from July 21-22, 2025, at Fire Station Mysuru. The program focused on Code Red emergency response procedures, combining theoretical knowledge with practical hands-on training. A total of 10 staff members participated in the program, representing various departments including maintenance, electrical, and general attendees.

TRAINING PARTICIPANTS

Total Participants: 10 Staff Members

Sl No	Name	Designation	Training Status
01	Mr. Shivarudrappa N	Maintenance Mechanic	Completed
02	Mr. Kishor L	Electrician	Completed
03	Mr. Girisha C	Attender	Completed
04	Mr. Mahadevaswamy S	Attender	Completed
05	Mr. Chethana H N	Attender	Completed
06	Mr. Rajesh M	Attender	Completed
07	Mr. Dinesh V	Attender	Completed
08	Mr. Mahadevaswamy R	Attender	Completed

Sl No	Name	Designation	Training Status
09	Mr. Kiran S	Attender	Completed
10	Mr. Mahesha S	Attender	Completed

TRAINING CURRICULUM

Day 1 (July 21, 2025): Theoretical training covering fire safety fundamentals, Code Red protocols, and emergency procedures.

Day 2 (July 22, 2025): Hands-on practical training including fire extinguisher operation, evacuation drills, and emergency response simulation.

TRAINING OUTCOMES

Knowledge Areas Covered

- **Code Red Protocols:** Understanding of emergency activation and response procedures
- **Fire Prevention:** Identification and mitigation of fire hazards in hospital environment
- **Equipment Usage:** Proper handling and operation of fire safety equipment
- **Emergency Response:** Systematic approach to fire emergency situations
- **Team Coordination:** Effective communication and coordination during emergencies

Skills Developed

- Fire extinguisher operation
- Emergency evacuation leadership
- Code Red activation procedures
- Incident reporting and communication
- Basic fire suppression techniques

CONCLUSION

The two-day Fire Safety Training Program was highly successful, achieving 100% participation and certification rates. All staff members demonstrated excellent understanding of fire safety procedures. The training has significantly enhanced the hospital's emergency response capabilities and strengthened our commitment to patient and staff safety.

JSSCPM

Objectives with regard to achieving SDG-15

1. Alternatives to animal testing
2. Medicinal plants and uses
3. 3R's Principles in research
4. CPCSEA and ICH guidelines for conducting research
5. Green initiatives to save the environment

List of activities planned to achieve the set objectives

1. Conducting awareness programs on green initiatives like rainwater harvesting and use of solar energy
2. **Tree Census Project for Mysuru city**
3. Seminar on alternatives to animal experimentation.
4. Reduce and replace the use of plastics
5. Training students in proper waste disposal practices and sensitizing them on using the services of biomedical disposal certified agencies.
6. Encourage students to plant trees and adopt animals.

Poster competition, essay writing competition, role play on World Environment Day celebration

Plant a sapling on the occasion of World Environment Day celebration

The National Service Scheme (NSS) Unit of JSS College of Pharmacy, Mysuru, organized a Plant Saplings event on the occasion of World Environment Day (5th June 2025), with the theme 'Our Land, Our Future'. The main aim of this occasion was to raise awareness of the growing threat of global warming and to protect our natural world and planet Earth. It is a day that reminds everyone on the planet to get involved in environmentally friendly activities. People come together to pledge to build a greener planet.





Collaborative Tree Census Project – Mysuru

As part of the institution's continued commitment to environmental sustainability, biodiversity conservation, and community engagement, the NSS Unit of JSS College of Pharmacy, Mysuru, undertook a Collaborative Tree Census Project in Mysuru from 12 October 2025 to 1 March 2026, contributing directly to the objectives of United Nations Sustainable Development Goal (SDG) 15 – Life on Land.

The initiative was carried out in collaboration with Dr. Smitha Hegde, Director, Centre for Advanced Learning (CFAL), Mysuru, and Dr. Bhamy Shenoy, Founder, Mysore Grahakara Parishat (MGP). The project was envisioned as a community-oriented environmental initiative to document Mysuru's urban tree wealth, promote awareness of urban biodiversity, strengthen environmental stewardship, and encourage active community participation in the protection and conservation of green spaces.

Through systematic field-based tree documentation, the initiative provided students with an opportunity to engage directly with the local environment and develop a greater understanding of the ecological significance of urban trees. Such activities contribute to the creation of a reliable baseline of urban vegetation while encouraging citizens and students to recognize the importance of trees in supporting biodiversity, enhancing urban ecological resilience, improving environmental quality, and sustaining healthy communities.

The Collaborative Tree Census Project represents a meaningful grassroots contribution to SDG 15 – Life on Land, particularly by promoting urban biodiversity conservation, sustainable management of terrestrial ecosystems, environmental awareness, and community-based

conservation practices. Beyond data collection, the initiative reflects the institution's commitment to translating sustainability goals into practical, student-driven and community-linked action.

The project also demonstrates the value of academic–community collaboration in addressing local environmental priorities. By bringing together students, academic institutions, environmental organizations, and civic stakeholders, the initiative helped foster a culture of environmental responsibility, sustainability, and active citizenship, while reinforcing the importance of collective action in safeguarding Mysuru's urban green heritage for future generations.









Q: Does your College or University support and/or organize events aimed to promote conservation and sustainable utilization of the land, including forests and wild land?

A: Yes. The National Service Scheme (NSS) team and the Smart Campus Committee actively work to conserve and improve the ecological system, including insects, plants, and trees, through regular sapling plantations and tree mobilization programs. These plants and trees are maintained using in-house manures prepared from green waste, ensuring sustainable upkeep.

Q: Does your College or University have policies to ensure that food on campus is sustainably farmed?

A: While the institution does not operate at the livestock level, the campus garden team cultivates fruit-bearing trees (jackfruit, mango, banana, coconut, tamarind, bael fruit) and vegetable plants (cucumber, ladies' finger, drumstick, etc.) that yield produce seasonally. These are shared with staff, students, and visitors. The institution is currently developing formal policies to enhance its green initiative in this area.

Q: Does your College or University work directly to maintain and extend existing ecosystems and their biodiversity, especially those under threat?

A: Yes. The Smart Campus Committee has increased the number of trees on campus, which provide shelter to birds, insects, bees, and earthworms. Additionally, the University has eliminated the use of amphibians, rodents, and similar species in undergraduate teaching and demonstration, as part of its commitment to protecting micro and macro-ecological systems.

Q: Does your College or University offer educational programmes on ecosystems (including wild flora and fauna) for local or national communities?

A: Yes. JSSAHER offers a dedicated Master's degree in Environmental Sciences, focusing on areas such as water quality analysis, energy harnessing, air quality, climate change, and green technology, producing skilled professionals for environmental stewardship.

Q: Does your College or University offer educational or outreach programmes on sustainable land management for agriculture and tourism?

A: No.

Q: Does your College or University have a policy to ensure conservation, restoration, and sustainable use of terrestrial ecosystems associated with the institution, in particular forests, mountains, and drylands?

A: The institution is in the process of developing such a policy. In the meantime, it organizes multiple programs promoting conservation, restoration, and sustainable use of terrestrial ecosystems.

Evidence: https://jssuni.edu.in/jssaher/activities-and-events/ActivityAndEventDetail.aspx?NOTICESID=3110

Q: Does your College or University have a policy to identify, monitor, and protect any IUCN Red Listed species or national conservation list species within its areas of operation?

A: No formal policy currently exists. However, the campus was developed on residentially approved land, ensuring no displacement of prominent species or habitats. The institution supports the natural ecosystem through initiatives such as green campus development, a herbal garden, a plastic-free campus, and rainwater harvesting.

Q: Does your College or University include local biodiversity considerations in planning and development processes (e.g., new buildings)?

A: Yes. The Smart Campus Committee ensures local biodiversity is incorporated into planning and development.

Q: Does your College or University have a policy to reduce the impact of alien species on campus?

A: No.

Q: Does your College or University collaborate with the local community in efforts to maintain shared land ecosystems?

A: No.

Q: Does your College or University have water quality standards and guidelines for water discharges to protect ecosystems, wildlife, and human health?

A: Yes. An Effluent Treatment Plant (ETP) is under construction to treat waste from chemical and biological laboratories separately before release into municipal drainage. Domestic wastewater will also be treated in the ETP, and the treated water will be reused for gardening, ensuring environmental safety.

Q: Does your College or University have a policy on reducing plastic waste on campus?

A: Yes. The Smart Campus and Herbal Garden Committees have implemented measures to reduce plastic usage, such as:

- Restricting plastic water bottles and files, and promoting paperless communication
- Minimizing e-waste such as CD-ROMs
- Using biodegradable plates and cups in events
- Replacing plastic-wrapped floral bouquets with sapling distributions
- Distributing jute bags during functions

The campus aims to become a fully plastic-free zone in a phased manner.

Q: Does your College or University have a policy, process, or practice on hazardous waste disposal?

A: Yes. The institution has a dedicated policy for disposing of hazardous waste, including biowaste, carcinogens, construction materials, and e-waste.

Policy Link: **https://jssuni.edu.in/jssaher/jssaher-infra/biomedical-waste-management/biomedical-waste-management-home.html**

JSSCPO

ABOUT SDG 15- LIFE ON LAND

Sustainable Development Goal 15 (SDG 15), also known as "Life on Land," is one of the 17 global goals established by the United Nations in 2015, alongside other vital resources such as water. Its core aim is to protect, restore, and promote the sustainable use of terrestrial ecosystems; sustainably manage forests; combat desertification; halt and reverse land degradation; and stop biodiversity loss. This goal features 12 targets to be met by 2030, with progress tracked through 14 specific indicators.

The nine outcome-focused targets include conserving and restoring terrestrial and freshwater ecosystems, ending deforestation and rehabilitating degraded forests, halting desertification and land degradation, ensuring the protection of mountain ecosystems, safeguarding biodiversity and natural habitats, promoting equitable benefit-sharing from genetic resources, fighting poaching and illegal trafficking of protected species, preventing the spread of invasive alien species in ecosystems, and incorporating ecosystem and biodiversity concerns into government policies. The three implementation targets focus on boosting financial support for ecosystem and biodiversity conservation, encouraging sustainable forest management, and addressing global poaching and trafficking.

By committing to these targets, we can help ensure a sustainable and flourishing terrestrial environment for current and future generations.



OUR INITIATIVES FOR LIFE ON LAND (SDG 15)

The College is actively engaged in preserving and expanding the ecosystems within the Nilgiris Biosphere. The biodiversity of medicinal plants is protected and nurtured within the college grounds. Our campus is rich in greenery, featuring seasonal trees and regularly maintained gardens to ensure a clean and orderly environment. The progress toward achieving the targets of SDG 15 is measured through several indicators:

- Research on land ecosystems
- Supporting land ecosystems through education
- Supporting land ecosystems through action
- Land sensitive waste disposal

Research on land ecosystems

JSS College of Pharmacy, Ooty, actively conducts interdisciplinary research supporting biodiversity conservation, sustainable resource utilization, environmental sustainability, and medicinal plant research. The institution undertakes externally funded projects, international collaborations, and high-impact publications addressing terrestrial ecosystem conservation and sustainable healthcare. Notable initiatives include the SPARC Phase II international project, *"Plastics and People: Human Health Implications of Microplastics in the Environment,"* in collaboration with the University of Newcastle, Australia, and research on sustainable pharmaceutical packaging. The institution has also published research on the neuroprotective potential of medicinal plants, highlighting the importance of conserving plant biodiversity and promoting evidence-based herbal medicine, thereby contributing to the objectives of SDG 15 – Life on Land.

Publication

Saravanan S, Malligarjunan N, Subramanian G. Exploring phytomedicine's potential in managing Parkinson's disease: unveiling neuroprotective compounds from medicinal plants.

1. Pachiyappan JK, Marimuthu A, Natarajan J, Krishnamurthy PT, Palanisami T, Kuppusamy G, Karuppasamy PK. Hidden pathways: Detection and quantification of microplastics across treatment stages of pharmaceutical WWTPs. Journal of Hazardous Materials. 2026, 512, 142338
2. Kuttykattil A, Kumar SB, Pachiyappan JK, Chandrasekar S, Raja S, Selvakumar R, Kuppusamy G, Palanisami T. Molecular interactions and dynamics of microplastics in indoor dust with lung-inflammatory receptors: A study in academic settings. Journal of Environmental Sciences. 2026, 161, 384-390 (2026).
3. Kannan E, Logesh L, Priyadharshini S. Evaluation of Anti-Asthmatic Potential of *Emblica Officinalis* Seed Extract in RAW 264.7 Cell Lines. Asian Journal of Green chemistry. 2026, 10, 565-588.

15.2.1 Events for conservation & sustainable land use

The campus promotes green resilience and operates as a plastic-free environment. Spanning 6.45 acres, the JSS College of Pharmacy, Ooty, has 36,032 square meters covered by buildings. While our infrastructure supports a high standard of academic education within a

clean, safe, and comfortable setting, the college has also been proactive since its establishment in developing a state-of-the-art SMART campus.

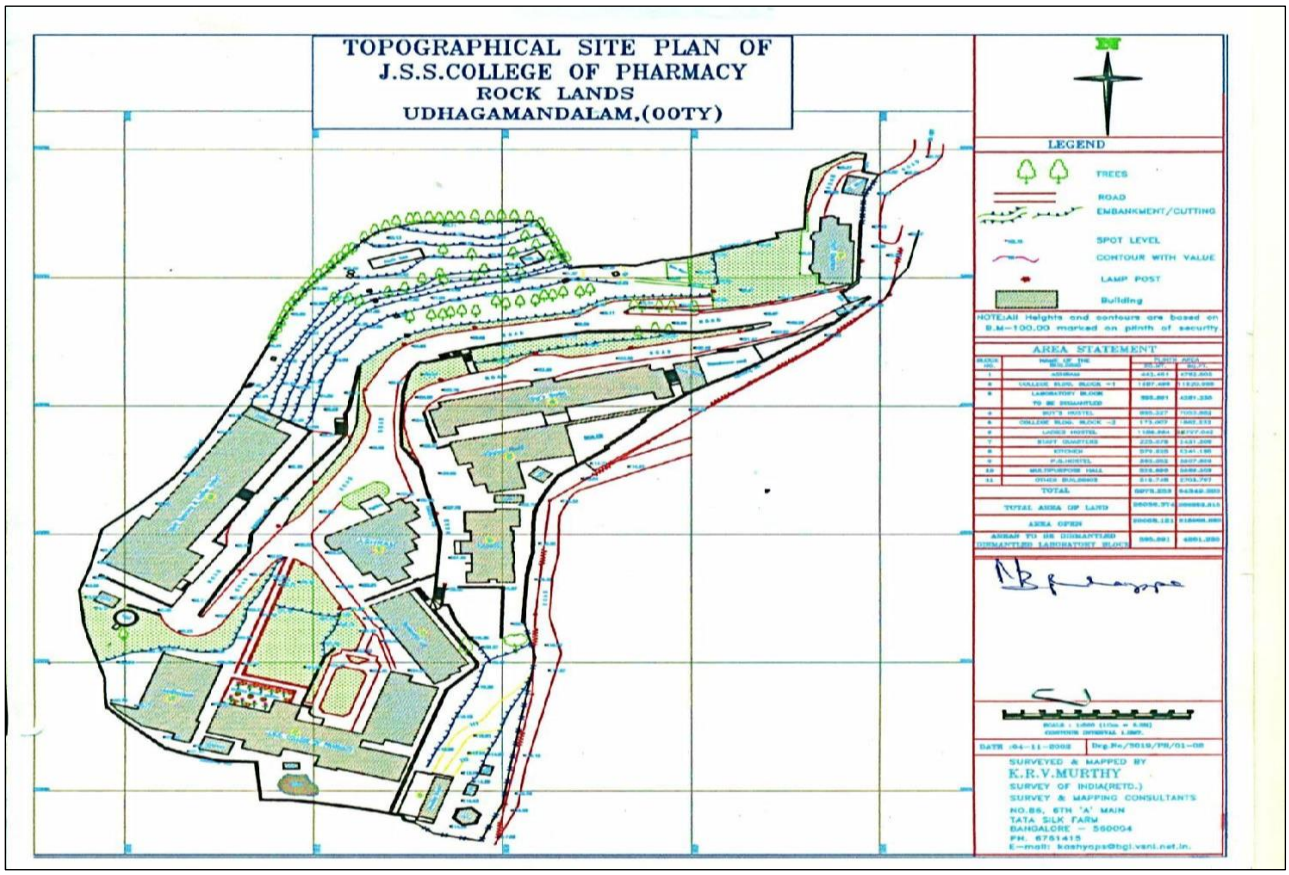






Green Cover in Campus

SMART CAMPUS COMMITTEE- https://jssuni.edu.in/jssaher/college-of-pharmacy-ooty/smart-campus.html



Topographical Map of Green cover in the campus

As per the Policy of Nilgiris District, expansion of Buildings is planned in accordance with Ministry of Forestry and HADP of Nilgiris and prior permission is taken for the same.

The government policy on this is as follows- https://nilgiris.nic.in/plastic-free-nilgiris/#introduction

Medicinal Plants and Trees in Campus

In our college, biodiversity conservation efforts are integrated into our practices to raise awareness among students. Green spaces and native medicinal plants are maintained on campus to support local flora and fauna. Sustainable practices are embraced, promoting recycling and responsible waste management. A total of 86 species of trees and plants are on the campus.

No Trees on the campus are cut down and green resilience is promoted by the College Smart Campus committee.

JSS College of Pharmacy, Ooty, through TIFAC-CORE in Herbal Drugs and the Department of Pharmacognosy, actively promotes biodiversity conservation and the sustainable use of medicinal plants by organizing Medicinal Plants Exhibitions during the 128th Flower Show and Rose Show held at the Government Botanical Garden and Government Rose Garden, Ooty,



in May 2026. The exhibitions showcased the therapeutic importance, conservation, and sustainable utilization of medicinal plants, creating awareness among students, researchers, healthcare professionals, tourists, and the general public. The institution secured 21 prizes for its exhibits and attracted over 20,000 visitors. In addition, value-added herbal products, including eucalyptus oil and gaultheria oil, were displayed and sold, generating approximately ₹3.05 lakh. These initiatives strengthened public awareness of medicinal plant conservation, herbal biodiversity, and sustainable utilization of natural resources while reinforcing the institution's commitment to SDG 15 – Life on Land..









15.2.3 Maintain/extend ecosystems & biodiversity

The NSS Unit of JSS College of Pharmacy, Ooty, organized a seven-day Special Camp from **29 March to 4 April 2026** at the tribal villages of Thengumarahada, Alimayar, and Kallampalayam to promote environmental conservation and sustainable land use. NSS volunteers undertook plantation activities, removal of weeds and thorny bushes, and cleaning of public spaces, riverbanks, and water channels to support ecosystem restoration. The camp also included interactions with Forest Department officials and biodiversity experts, along with environmental awareness programmes for tribal communities.















































TRIO Celebrations

JSSCPO organized the “Trio Celebrations” on 20th Sep 2025 to mark three important occasions: the 110th Jayanthi of Jagadguru Dr. Sri Shivarathri Rajendra Mahaswamiji (29th Aug 2025), Teachers’ Day (5th Sep 2025) and World Pharmacists Day (25th Sep 2025). The program included cultural, academic, and community-oriented activities involving staff, students, alumni, and stakeholders.

Sustainability & Social Outreach

- Sapling plantation within the campus
- Blood donation: 25 units collected
- Support activities for differently-abled children and an orphanage
- Stationery distribution to the adopted tribal school
- Initiation of the 5th National Pharmacovigilance Week lecture series









Celebration of World Vultures Day:

On the occasion of World Vultures Day (19 July 2025), the NSS Unit of JSS College of Pharmacy, Ooty, in collaboration with the Singara Forest Range, organized a mass plastic removal and cleaning drive along the forest stretch from Kallatti to Masinagudi–Moyar. Around 40 NSS volunteers collected nearly 100 bags of plastic waste and bottles, creating awareness among tourists on maintaining a plastic-free Nilgiris.

Forest officials emphasized the importance of protecting wildlife and forest ecosystems from plastic pollution. This initiative promoted environmental conservation, reduced plastic contamination in terrestrial ecosystems, and reinforced the institution's commitment to biodiversity conservation and SDG 15 – Life onLand.



Special Camp:

On 1 April 2026, as part of the NSS Special Camp, volunteers undertook environmental conservation activities including cleaning riverbanks, removing weeds and thorny bushes across nearly 10 hectares in collaboration with Forest Department officials, and carrying out plantation activities to enhance vegetation for wildlife. The volunteers also cleaned the Primary Health Centre and nearby temple premises, contributing to ecosystem restoration and improved environmental hygiene. These initiatives promoted biodiversity conservation, sustainable land management, and community participation, supporting the objectives of SDG 15 – Life on Land.







Distribution of Water dispenser to the Trible School at Devala:

On 12 September 2025, the NSS Unit of JSS College of Pharmacy, Ooty, in collaboration with the Alumni Association, donated a water dispenser to the Government Tribal Residential School, Devala, to promote access to safe drinking water and improve environmental health. As part of the programme, a tree plantation drive was organized within the school campus to enhance green cover and promote environmental awareness among students and the local community. Conducted during the 110th Jayanthi celebrations of His Holiness Sri Rajendra

Swamiji, the initiative reflected the institution's commitment to sustainable community development and biodiversity conservation in alignment with SDG 15 – Life on Land.











ra s

dicinal plant garden, Dept. of Pharmacognosy. We have academic programmes which promotes the conservation of plants and land. At Undergraduate level in B Pharm prescribed by Pharmacy Council of India– Environmental Sciences Subject is taught for conservation of land. Screenshot of it is below and syllabus is attached.

Dept. of Pharmacognosy

- ❖ To establish QR-enabled medicinal plant garden that provide students and visitors with instant access to educational content through mobile devices.

- ❖ Strengthen the Centre of Excellence in Isolation Technology by enhancing analytical capabilities and promoting consultancy and revenue-generating activities.

'Prakriti' - dedicated Green Club, one of 7 official IQAC-coordinated student clubs with elected Secretary/Joint Secretary

Student Clubs

JSS College of Pharmacy, Ooty, promotes ecosystem education and biodiversity conservation through structured academic and co-curricular initiatives. The Department of Pharmacognosy has planned the establishment of a **QR-enabled Medicinal Plant Garden**, enabling students and visitors to access digital information on medicinal plants, their therapeutic uses, conservation status, and sustainable utilization through mobile devices. To further strengthen environmental education, the institution established **'Prakriti' (Green Club)** as one of the seven IQAC-coordinated student clubs, providing a platform for student-led activities on environmental conservation and sustainable practices. The Green Club was officially inaugurated during the **64th National Pharmacy Week Celebrations (January 2026)**, reinforcing the institution's commitment to promoting biodiversity awareness, ecosystem conservation, and environmental stewardship among students and the wider community. Green Club listed among 7 student clubs launched at National Pharmacy Week 2026





Environmental Sciences and Pharmacognosy

JSS College of Pharmacy, Ooty, integrates ecosystem conservation, biodiversity, environmental sustainability, and the sustainable utilization of medicinal plants into its academic curriculum through undergraduate and postgraduate programmes. Courses such as Environmental Sciences and Pharmacognosy provide students with theoretical knowledge and practical exposure to biodiversity conservation, medicinal plant identification, sustainable harvesting, natural resource management, and ecosystem protection. The curriculum is further strengthened through field visits, medicinal plant garden activities, and hands-on

learning, enabling students to understand the ecological significance of medicinal plants and the importance of conserving terrestrial ecosystems in alignment with SDG 15 – Life on Land.

Detailed Syllabus:

Unit No.	Topics	No. of Lectures
I	**Environmental Pollution** • Definition, scope, and importance of environmental studies • Types, causes, effects, and control measures of Air, water, soil, noise, and nuclear pollution • Solid waste and hazardous waste management in pharmaceuticals • Role of pharmacists in conservation and sustainable use of resources	3 Hours
II	**Pharmaceutical Waste and Effluent Management** • Types of pharmaceutical waste: chemical, expired drugs, packaging, biomedical waste • Biomedical Waste Management Rules (2016) and CPCB guidelines • Effluent Treatment Plant (ETP) design and functioning • Water purification methods in pharmaceutical settings (RO, UV, distillation, filtration)	3 Hours
III	**Environmental Impact of the Pharmaceutical Industry** • Sources of pollution in pharmaceutical manufacturing • Types of pharmaceutical waste: solid, liquid, and gaseous • Environmental risks of active pharmaceutical ingredients (APIs) and its dosage forms. Impact of pharmaceutical residues on ecosystems and human health	3 Hours
IV	**Sustainability in the Pharmaceutical Sector** • Principles of sustainable development in pharma • Principles and Practices of Green pharmacy • Energy conservation and resource optimization.	3 Hours
V	**Government Policies, Compliance, and Practical Exposure** • Environmental laws: o Environment (Protection) Act, 1986 o Water (Prevention and Control of Pollution) Act • National Green Tribunal (NGT) and regulatory bodies (CPCB, SPCB) • Government initiatives: o Swachh Bharat Abhiyan o River rejuvenation program- Namami Gange Programme o Jal Jeevan Mission • ISO-14000	3 Hours
Recommended References *(Preferably latest editions)*: 1. Bharucha, E. *Environmental Studies*. University Grants Commission, New Delhi. 2. Rajagopalan, R. *Environmental Studies*. Oxford University Press. 3. Joseph, B. *Environmental Studies*. Tata McGraw Hill.		

Course Code	Course Title			Course Type
BP302T	**Environmental Sciences (Theory)**			Core
Credit	Hours Per Week (L-T-P)			Max. Hours
	L	T	P	
1	1	--	--	15
Maximum Marks	SE			ESE
50	20			30

COURSE OBJECTIVES:

The objectives of this course are to:

1. Explain the environmental challenges and disaster risks relevant to human health and pharmaceutical activities.
2. Demonstrate knowledge of waste management protocols and legal guidelines for pharmaceutical and biomedical waste handling.
3. Apply technical understanding of effluent and sewage treatment technologies used in the pharmaceutical sector.
4. Assess the ecological impact of APIs and recommend mitigation strategies for pollution control.
5. Explain sustainable practices and energy-efficient operations within pharmaceutical industries.

COURSE OUTCOMES (CO):

CO No.	Upon successful completion of this course, the students will be able to
1	Understand the basic concepts of environmental pollution, its types, causes, and disaster management strategies.
2	Identify and categorize different types of pharmaceutical and biomedical waste generated in the healthcare and pharmaceutical sectors.
3	Describe the design and operation of Effluent Treatment Plants (ETPs), Sewage Treatment Plants (STPs), and water purification systems in pharma settings.
4	Analyze the environmental risks posed by pharmaceutical manufacturing, APIs, and dosage forms.
5	Recognize the importance of sustainability and green pharmacy practices in the pharmaceutical industry.

Course Code	Course Title			Course Type
BP708T AEC5	**Transformation of Food Waste into Medicinal Products (Theory)**			Elective
Credit	Hours Per Week (L-T-P)			Max. Hours
	L	T	P	
1	1	--	--	15
Maximum Marks	SE			ESE
50	20			30

COURSE OBJECTIVES:

The objectives of this course are to:

1. Explain the sources, environmental impacts, and regulatory aspects of food waste.
2. Describe sustainable principles and technologies used in food waste management.
3. Explore methods for converting food waste into value-added products.
4. Discuss the recovery of bioactive compounds from food waste and their potent applications.
5. Introduce the use of artificial intelligence and digital technologies in food wa management and resource optimization.

COURSE OUTCOMES (CO):

CO No.	Upon successful completion of this course, the students will be able to
1	Identify types, sources, impacts, and regulations related to food waste.
2	Apply principles and sustainable technologies for effective food waste managemer
3	Explain the conversion of food waste into biofuels, biopolymers, and other valu added products.
4	Assess bioactive compounds derived from food waste and their industrial and heal applications.
5	Understand the role of AI, IoT, and blockchain in smart food waste manageme systems.

Interactive session with the Biodiversity Conservation Trust

On 2 April 2026, during the NSS Special Camp at Kallampalayam village, volunteers participated in environmental conservation activities, including cleaning public areas and removing weeds and thorny bushes. They attended an interactive session conducted by the Biodiversity Conservation Trust, where experts highlighted the importance of biodiversity conservation, ecosystem restoration, and wildlife habitat management. Volunteers also collected seeds and leaves of native plant species such as soap nut, Seemai Karuvelam, and Albizia to understand their ecological significance. On 3 April 2026, during the NSS Special Camp, volunteers undertook environmental conservation activities including cleaning temple premises, nearby public areas, footpaths, and removing weeds and thorny bushes to improve the local environment. They interacted with tribal communities to understand their sustainable

lifestyle and environmental practices, while discussions with Forest Department officials provided insights into the region's geographical features, flora, fauna, and ecosystem conservation. These activities enhanced environmental awareness, promoted community participation, and strengthened the volunteers' understanding of biodiversity conservation and sustainable management of terrestrial ecosystems, supporting the objectives of **SDG 15 – Life on Land**.





cal College PG students on herbal drug

a. PG & Research Scholar students of JSS Ayurveda Medical College (JSSAMC), Mysuru,

Hands-on Training Programme on Physicochemical and Phytochemical Analysis

A team comprising two faculty members and nine Postgraduate students from the Dept. of PG Studies in Dravyaguna, JSS Ayurveda Medical College, Mysuru, participated in a Hands-on Training Programme on Physicochemical and Phytochemical Analysis conducted at TIFAC centre and Dept. of Pharmacognosy and Phytopharmacy from 02 to 11 March 2026 with the objective of imparting practical knowledge and technical skills in the standardization and quality evaluation of herbal drugs. The participants received hands-on exposure to various physicochemical analyses, including determination of moisture content, ash values, extractive values, and other quality control parameters. Training was also provided on preliminary phytochemical screening methods for the identification of important phytoconstituents present in medicinal plants and herbal formulations.

The programme included laboratory demonstrations, practical sessions, data interpretation, and discussions on standard operating procedures followed in herbal drug research. The participants gained valuable experience in analytical techniques and quality assessment methodologies that are essential for research and development in traditional medicine and herbal sciences.

The training programme was successfully completed, and the participants expressed their appreciation for the excellent laboratory facilities, expert guidance, and practical learning

opportunities provided. The programme contributed significantly to enhancing the research capabilities and technical competencies of the participating faculty members and students.




One-day training for Sona College of Arts & Science students on herbal standardization

b. One-Day Specialized Training Programme Report

Successfully organized a one-day specialized training programme on **14 Feb 2026** for **26 students from Sona College of Arts and Science, Salem** with the objective of providing comprehensive exposure to **Phyto-pharmacy, Biotechnology, and Herbal Standardization,** while strengthening practical laboratory skills and enhancing students' understanding of herbal drug research. The participants gained hands-on experience with advanced analytical instruments and laboratory techniques employed in the extraction, isolation, and characterization of phyto-constituents from medicinal plants. The **Phyto-pharmacy** module introduced students to herbal drug formulation techniques, pharmacognostic evaluation methods, and phyto-chemical screening procedures essential for the study and development of medicinal plant-based products.

The **Biotechnology** segment provided practical training by Dr.R.Rajesh Kumar, Associate Professor, Department of Pharmaceutical Biotechnology in plant tissue culture techniques, microbial contamination analysis, and DNA bar-coding methods followed by the pharmacology training by Dr.R.Vadevelan, Professor of the pharmacology department. The session highlighted the significance of biotechnological tools in ensuring the quality, authenticity, and purity of herbal raw materials and finished products. Under the **Herbal Standardization** component, students were trained in quality control parameters, chromatographic fingerprinting techniques such as **High-Performance Liquid Chromatography (HPLC),** and regulatory requirements in accordance with **AYUSH guidelines.** The session emphasized the importance of standardization in maintaining the safety, efficacy, and consistency of herbal medicines.

The programme significantly enhanced participants' knowledge of contemporary herbal drug research, quality assurance practices, and emerging technologies in natural product sciences. It fostered scientific curiosity, encouraged research-oriented learning, and motivated students to explore higher studies and career opportunities in herbal medicine, phytopharmaceutical sciences, biotechnology, and traditional healthcare systems.

Overall, the training programme served as a valuable platform for knowledge exchange and skill development, providing students with practical insights into modern herbal drug discovery, development, and standardization processes.



15.3.1 Policy - conservation/sustainable use of land

ISO 14001:2015 (EMS) & ISO 50001 (Energy Mgmt) Surveillance Audit-II, 7 May 2026, conducted by IRQS

ISO Audit

The ISO Surveillance Audit - II (External) for ISO 14001: Environmental Management System (EMS) and ISO 50001: Energy Management System (EnMS) were successfully conducted on 7th May 2026 by Mr. R. Rajagopal, Auditor for ISO 50001 (EnMS), and Mr. Muthu Kumaravel, Auditor for ISO 14001 (EMS) from Indian Register Quality Systems (IRQS). The auditors evaluated the implementation and effectiveness of the Environmental and Energy Management Systems, reviewed the relevant documentation, interacted with faculty and staff, and verified compliance with the ISO standards. The audit was coordinated by Dr. Vadiraj K. T., Assistant Professor, and concluded successfully, reaffirming the institution's commitment to continual improvement and sustainable practices.





ECO SOLUTIONS & LABORATORIES OPC PVT LTD

(Environmental Pollution Testing Laboratory)
10/100, Sedan Thottam,
G N Mills Post,
Coimbatore – 641 029.

87540 32615
0422 2404617
Email: info@ecosolutionsindia.com
Web: www.ecosolutionsindia.com

TEST REPORT

SOURCE EMISSION MONITORING	**Report No:**	**ECO/2025-26/7953**
	Report Date:	**04.04.2026**
	Sample Collected on:	01.04.2026
	Sample Received on:	02.04.2026
	Test Commenced on:	02.04.2026
	Test Completed on:	03.04.2026
Instrument Used:	Stack Monitoring Kit – Ecotech ESS 100 & Flue Gas Analyzer	
ISSUED TO:	**M/s. JSS COLLEGE OF PHARMACY.,** Post Box No:20, Rocklands, Udhagamandalam - 643001, The Nilgiris, Tamil Nadu.	

STACK EMISSION SOURCE: DIESEL GENERATOR 250 KVA

Sl.NO	DESCRIPTION	UNIT	TEST RESULTS	TEST METHOD
1	Stack Height from Ground Level	m	15	...
2	Stack Diameter	m	0.15	...
3	Ambient Temperature	°C	29	IS:11255 PART 3 2008 RA 2018
4	Stack Temperature	°C	516	IS:11255 PART 3 2008 RA 2018
5	Stack Velocity	m/sec	18.72	IS:11255 PART 3 2008 RA 2018
6	Gas Discharge	Nm^3/hr	563.0	IS:11255 PART 3 2008 RA 2018
7	Particulate Matter (PM)	g/kw-hr	0.12	IS:11255 PART 1 1985 RA 2019
8	Sulphur Dioxide (SO_2)	mg/Nm^3	BDL (D.L:5.0)	IS:11255 PART 2 1985 RA 2019
9	Oxides of Nitrogen (NO_2)	g/kw-hr	0.63	IS:11255 PART 7 2005 RA 2017
10	Carbon Monoxide (CO)	g/kw-hr	1.99	IS: 13270 1992 RA 2019
11	Hydrocarbon (HC)	g/Kw-h	0.70	IS: 13270 1992 RA 2019

< End of Report >

Permissible Limits for Emission Source

S.NO	PARAMETERS	UNIT	TNPCB Norms
1	Particulate Matter (PM)	g/kw-hr	0.2
2	Carbon Monoxide (CO)	g/kw-hr	3.5

Verified by,

for **M/s. ECO SOLUTIONS & LABORATORIES (OPC) PVT LTD**

Authorized Signatory

IRCLASS
SYSTEMS AND SOLUTIONS PRIVATE LIMITED

CERTIFICATE OF APPROVAL

Issued by Indian Register Quality Systems
(A Division of IRCLASS Systems and Solutions Private Limited)

This is to certify that the Environmental Management Systems of

Organisation:	JSS Academy of Higher Education & Research
Address:	Head Office (University): JSS Academy of Higher Education & Research, JSS Medical Institution Campus, Sri Shivarathreeshwara Nagara, Mysuru - 570 015, Karnataka, India
Support Location & Scope:	Refer Annexure

has been assessed and found conforming to the following requirement

Standard:	ISO 14001:2015
Scope:	Providing Undergraduate, Post Graduate, and related courses in Medicine, Pharmacy, Life Sciences and Dentistry leading to awarding of Certificate, Diploma and Degree to students and Research Scholars
Certificate No.:	IRQS/240300698
Initial Certification Date:	16/04/2024
Current Date of Granting:	16/04/2024
Expiry Date:	15/04/2027

Indian Register Quality Systems

NABCB EM 005 IAF

Shashi Nath Mishra
Head IRQS

This approval is subject to continued satisfactory maintenance of the Environmental Management Systems of the organization to the above standard which will be monitored by IRQS. The use of the Accreditation Mark indicates accreditation with respect to activities covered by the certificate with accreditation no. EM 005. Condition Overleaf

COA/IRQS/NABCB/EMS/Rev 01

Head Office: 52A, Adi Shankaracharya Marg, Opp.Powai Lake, Powai, Mumbai - 400 072, India.



IRCLASS
SYSTEMS AND SOLUTIONS PRIVATE LIMITED

CERTIFICATE OF APPROVAL

Issued by Indian Register Quality Systems
(A Division of IRCLASS Systems and Solutions Private Limited)

This is to certify that the Energy Management Systems of

Organisation: JSS Academy of Higher Education & Research

Address: Head Office:
JSS Medical Institutions Campus,
Sri Shivarathreeshwara Nagara,
Mysuru - 570 015, Karnataka, India

Support Location & Scope: Refer Annexure

has been assessed and found conforming to the following requirement

Standard: ISO 50001:2018

Scope: Energy management of JSS Academy of Higher Education and Research Institutions at Mysuru and Udhagamandalam, Providing Undergraduate, Post-Graduate and related Courses leading to awarding of Certificate, Diploma and Degree to students and Research scholars

Certificate No.: IRQS/241000699

Initial Certification Date: 18/04/2024

Current Date of Granting: 18/04/2024

Expiry Date: 17/04/2027

Indian Register Quality Systems

IAF

Shashi Nath Mishra
Head IRQS

This approval is subject to continued satisfactory maintenance of the Energy Management Systems of the organization to the above standard which will be monitored by IRQS. The use of the Accreditation Mark indicates accreditation with respect to activities covered by the certificate with accreditation no. EN 001. Condition Overleaf

Head Office: 52A, Adi Shankaracharya Marg, Opp.Powai Lake, Powai, Mumbai - 400 072, India.

ECO SOLUTIONS & LABORATORIES OPC PVT LTD

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Email: info@ecosolutionsindia.com
Web: www.ecosolutionsindia.com

TEST REPORT

INDOOR AIR QUALITY SURVEY	**Report No:**	**ECO/2025-26/7952**
	Report Date:	**04.04.2026**
	Sample Collected on:	01.04.2026
	Test Commenced on:	02.04.2026
	Test Completed on:	03.04.2026

ISSUED TO: **M/s. JSS COLLEGE OF PHARMACY.,**
Post Box No:20, Rocklands,
Udhagamandalam - 643001,
The Nilgiris, Tamil Nadu.

NAME OF THE LOCATION: Chemistry Department (Baeyer's Lab)

Sl. No	TEST PARAMETERS	UNIT	TEST RESULTS	TEST METHOD	LIMITS (OSHA)
1	Particulate Matter (PM)	mg/m^3	BDL (DL:0.5)	ECO/IAQ/SOP -03	5.0
2	Sulphur Di-Oxide (SO_2)	mg/m^3	BDL (DL:0.02)	ECO/IAQ/SOP -04	13.1
3	Nitrogen-Di-Oxide (NO_2)	mg/m^3	0.012	ECO/IAQ/SOP -05	9.41
4	Carbon Monoxide (CO)	mg/m^3	BDL (DL:1.0)	ECO/IAQ/SOP -08	57.3
5	Carbon Dioxide (CO_2)	mg/m^3	900	ECO/IAQ/SOP -09	9000
6	Oxygen (O_2)	%	20.1	ECO/IAQ/SOP -10	>19.5

< End of Report >

OSHA – Occupational Safety and Health Administration

Verified by,

for **M/s. ECO SOLUTIONS & LABORATORIES (OPC) PVT LTD**

Authorized Signatory

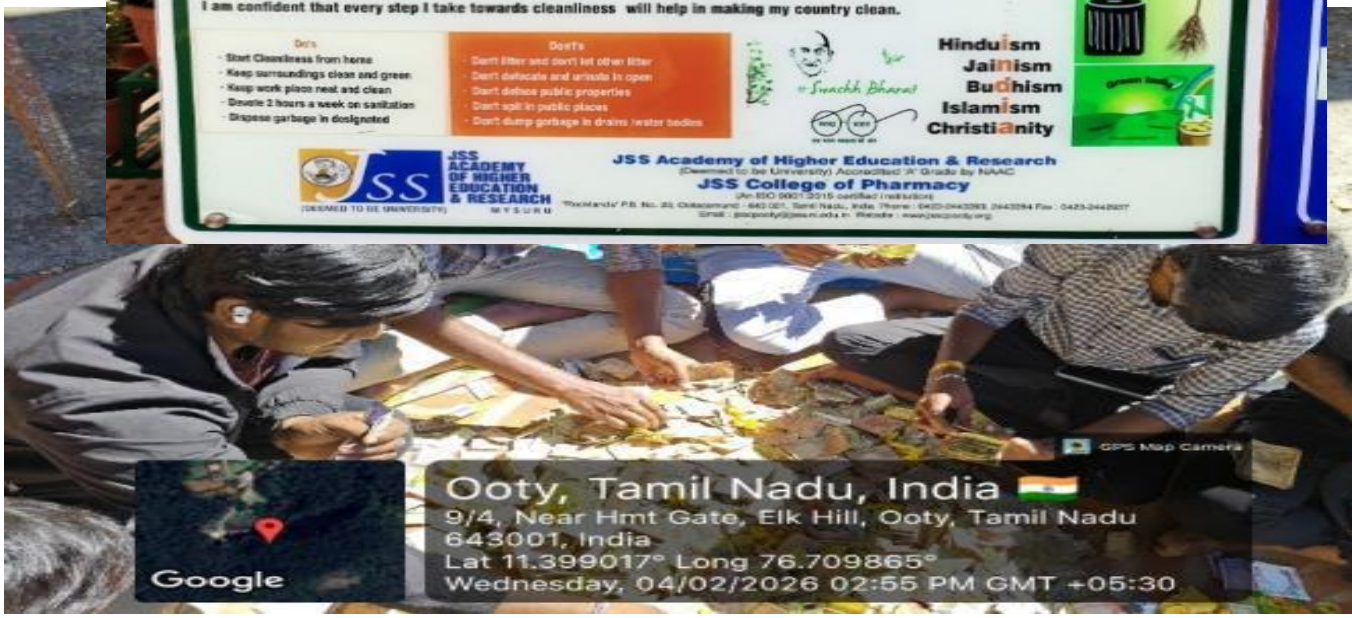
15.4.2 Reducing plastic waste

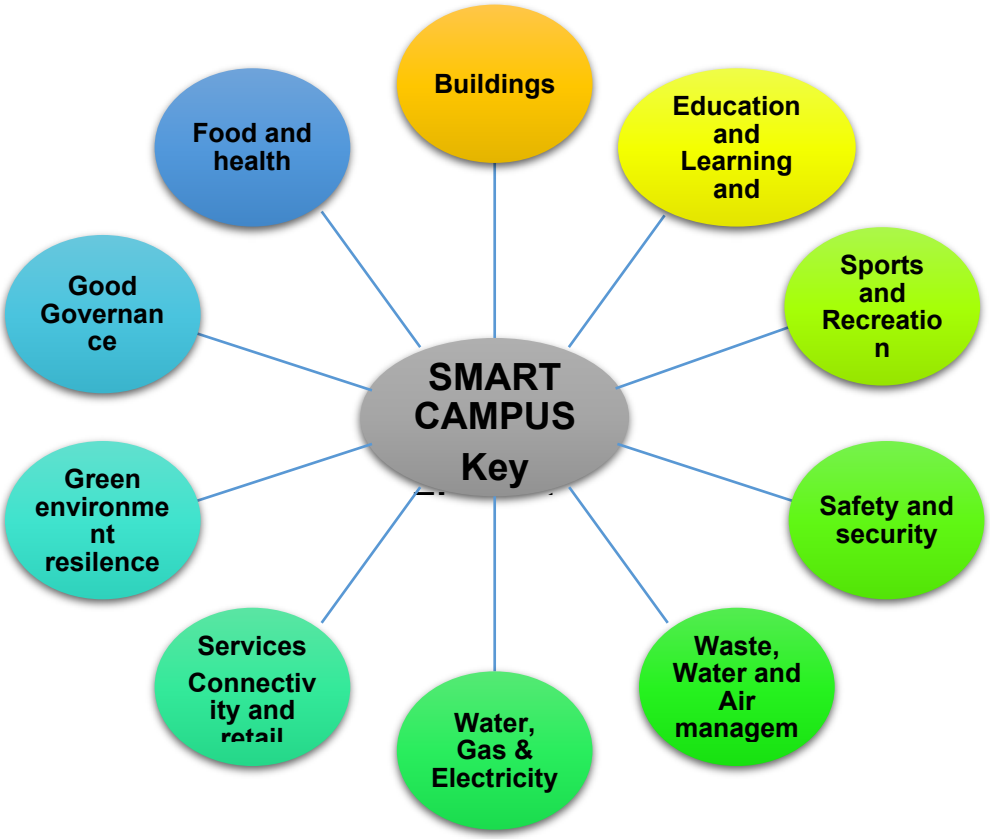
NSS volunteers' plastic removal at Murugan Temple 'to preserve the biosphere of the forest'. JSS College of Pharmacy, Ooty, is committed to reducing plastic waste through institutional initiatives and community engagement. The campus promotes a **Plastic-Free Campus** policy supported by awareness signage encouraging responsible waste management and environmental stewardship. As part of its outreach activities, NSS volunteers conducted a plastic removal drive at the Murugan Temple, Ooty, on **4 February 2026** during the hundi counting programme. The volunteers collected and removed plastic waste from the surrounding forest area to protect wildlife and preserve the forest ecosystem from plastic contamination. These initiatives demonstrate the institution's commitment to minimizing plastic pollution, conserving terrestrial ecosystems, and promoting sustainable environmental practices in alignment with **SDG 15 – Life on Land**.



Smart campus initative







Abstract

The JSS College of Pharmacy (JSSCP), Ooty [illegible]ny of Higher Education & Research, Mysuru, is dedicated to excellence in Pharmacy Education, Research, Training and Practice. Whilst, the existing infrastructure endorse our institution as a conducive place for academic learning which provides a quality education in a clean, safe and comfortable environment, since the inception, JSSCP has been working very active in establishing the state of the art, SMART campus. This report provides an overview of JSSCP's current SMART Campus best practices and future short and long-term initiatives under the following "SMART Key Elements. The SMART CAMPUS is achieved by implementing the below technologies like:

1. SMART Learning Management System (Education and Research)
2. SMART Physical Security and Surveillance
3. SMART Transportation
4. SMART ICT Enabled Campus
5. SMART Drug Information Services
6. SMART Responsibility towards Society (Two adopted tribal villages - Nedugalkombai and Veerakombai)

The college ideology for the SMART is

S - Specific

M - Measurable
A - Achievable
R - Realistic
T - Time based

Objectives

- ✓ To develop 'Our Campus, Our Planet' best practices
- ✓ To assimilate health, transport, energy and environmental management

Future Plan

- ✓ Develop a program to monitor and sustain the best practices on SMART Campus.
- ✓ Survey the pitfall in current practices and research the ways to improve and realize - **"SWACHH CAMPUS SWASTH SHIKSHA**"

TARGETS PROGRESS TILL June 2026

Targets	**Status**
Modernization of 07 Sports grounds To foster complete utilization	90% of Civil work is completed, Upgrading Sports ground in next phase
Facelift of the campus	Work in progress
Modernizations of Seminar hall	Work in progress
Submission of Smart Campus Initiatives to the local administration	A short booklet highlighting smart campus initiatives was submitted to the office of District collector and municipal commissioner
Upgradation of Guest House	A new lift is being installed for ease of access for the elderly and physically challenged.

15.4.3 Hazardous waste policy / educational programme

JSS College of Pharmacy embeds hazardous waste and safety education into its M.Pharm curriculum through the course **"Hazards and Safety Management" (MQA 201T)** — a 60-hour paper covering environmental hazards, air-based hazards, and chemical-based hazards, including fire protection and hazard control measures. Additionally, **Ms. Annanya Raman Helchel (II M.Pharm)** completed the **Lead Auditor Course on "Green Energy, Environment and Waste Management Audits,"** conducted by the Nature Science Foundation under the **Quality Council of India, Ministry of Commerce & Industry, Govt. of India** — demonstrating both curricular and individual capacity-building in hazardous waste management. The College has a Biomedical Waste Disposal certificate in accordance with the Nilgiris District Municipality Office. The sanitation team collects the biomedical waste from

the campus for incineration process at the Centralized facility at the Government. Managing waste in a smarter way is the most important aspect of any organization. For this management for the waste we have Bio-waste management, initiative of plastic free campus with no plastic bottles, Rain Water harvesting management for the reduction of water waste to save more water. Mechanical Chimneys, Fume hoods for chemical reactions and Bio-safety cabinets (Class II type A/B3).

The College follows the Government Gazette on Plastic Free zone in the whole Nilgiris District. The Enlisted items are completely banned within the campus. On, MAY 09, 2018 The Government Policy is abided by the College strictly and no single-use plastic items are used on the campus.

- https://nilgiris.nic.in/plastic-free-nilgiris/#banned
- https://cdn.s3waas.gov.in/s339461a19e9eddfb385ea76b26521ea48/uploads/2022/03/2022032483.pdf

The garbage waste disposal by the Municipality collects recycle plastic items from Separate bins placed around the campus.

	Management of combustible gases, Toxic gases and Oxygen displacing gases management, Regulations for chemical hazard, Management of over-Exposure to chemicals and TLV concept.	
4	**Fire and Explosion**: Introduction, Industrial processes and hazards potential, mechanical electrical, thermal and process hazards. Safety and hazards regulations, Fire protection system: Fire prevention, types of fire extinguishers and critical Hazard management system mechanical and chemical explosion, multiphase reactions, transport effects and global rates. Preventive and protective management from fires and explosion-electricity passivation, ventilation, and sprinkling, proofing, relief systems -relief valves, flares, scrubbers.	12 Hrs
5	**Hazard and risk management:** Self-protective measures against workplace hazards. Critical training for risk management, Process of hazard management, ICH guidelines on risk assessment and Risk management methods and Tools Factory act and rules, fundamentals of accident prevention, elements of safety programme and safety management, Physicochemical measurements of effluents, BOD, COD, Determination of some contaminants, Effluent treatment procedure, Role of emergency services.	12 Hrs

REFERENCES

1. Y.K. Sing, Environmental Science, New Age International Pvt, Publishers, Bangalore
2. "Quantitative Risk Assessment in Chemical Process Industries" American Institute of Chemical Industries, Centre for Chemical Process safety.
3. Bharucha Erach, The Biodiversity of India, Mapin Pu blishing Pvt. Ltd., Ahmedabad – 380 013, India,
4. Hazardous Chemicals: Safety Management and Global Regulations, T.S.S. Dikshith, CRC press

HAZARDS AND SAFETY MANAGEMENT
(MQA 201T)

Scope

This course is designed to convey the knowledge necessary to understand issues related to different kinds of hazard and their management. Basic theoretical and practical discussions integrate the proficiency to handle the emergency situation in the pharmaceutical product development process and provides the principle based approach to solve the complex tribulations.

Objectives

At completion of this course it is expected that students will be able to

- Understand about environmental problems among learners.
- Impart basic knowledge about the environment and its allied problems.
- Develop an attitude of concern for the industry environment.
- Ensure safety standards in pharmaceutical industry
- Provide comprehensive knowledge on the safety management
- Empower an ideas to clear mechanism and management in different kinds of hazard management system
- Teach the method of Hazard assessment, procedure, methodology for provide safe industrial atmosphere.

THEORY ***60Hrs***

1.	**Multidisciplinary nature of environmental studies:** Natural Resources, Renewable and non-renewable resources, Natural resources and associated problems, a) Forest resources; b) Water resources; c) Mineral resources; d) Energy resources; e) Land resources **Ecosystems:** Concept of an ecosystem and Structure and function of an ecosystem. Environmental hazards: Hazards based on Air, Water, Soil and Radioisotopes.	12 Hrs
2	**Air based hazards:** Sources, Types of Hazards, Air circulation maintenance industry for sterile area and non sterile area, Preliminary Hazard Analysis (PHA) Fire protection system: Fire prevention, types of fire extinguishers and critical Hazard management system.	12 Hrs
3	**Chemical based hazards:** Sources of chemical hazards, Hazards of Organic synthesis, sulphonating hazard, Organic solvent hazard, Control measures for chemical hazards,	12 Hrs

Colour codes for Biomedical waste collection and Packing

				
▪ Human and animal anatomical wastes ▪ Soiled wastes, ▪ Discarded or expired medicines ▪ Chemical wastes, ▪ Blood and body fluids ▪ Microbiology / Biotechnology wastes	▪ Contaminated waste (recyclable)	▪ Sharps including metals ▪ Needles ▪ Scalpels ▪ Blades	▪ Broken and contaminated glass including vials and ampoules ▪ Metallic body implants	▪ Food items ▪ Papers / paper plates, ▪ Water bottles, etc





BIOHAZARD

SOCIETY FOR BIO MEDICAL WASTE MANAGEMENT
THE NILGIRIS
REGISTERED UNDER SOCIETY ACT No: 72 / 2010
GOVERNMENT OF TAMILNADU

SL.No

Membership Certificate

This is to Certify that M/S/DR J.S.S College of Pharmacy Udhagamandalam is a member* of Society For Bio Medical Waste Management, The Nilgiris. The Bio Medical Waste Generated in their Hospital / Clinic / Laboratory is being disposed through the treatment plant run by our society as per the norms and approval of Tamil Nadu Pollution Control Board

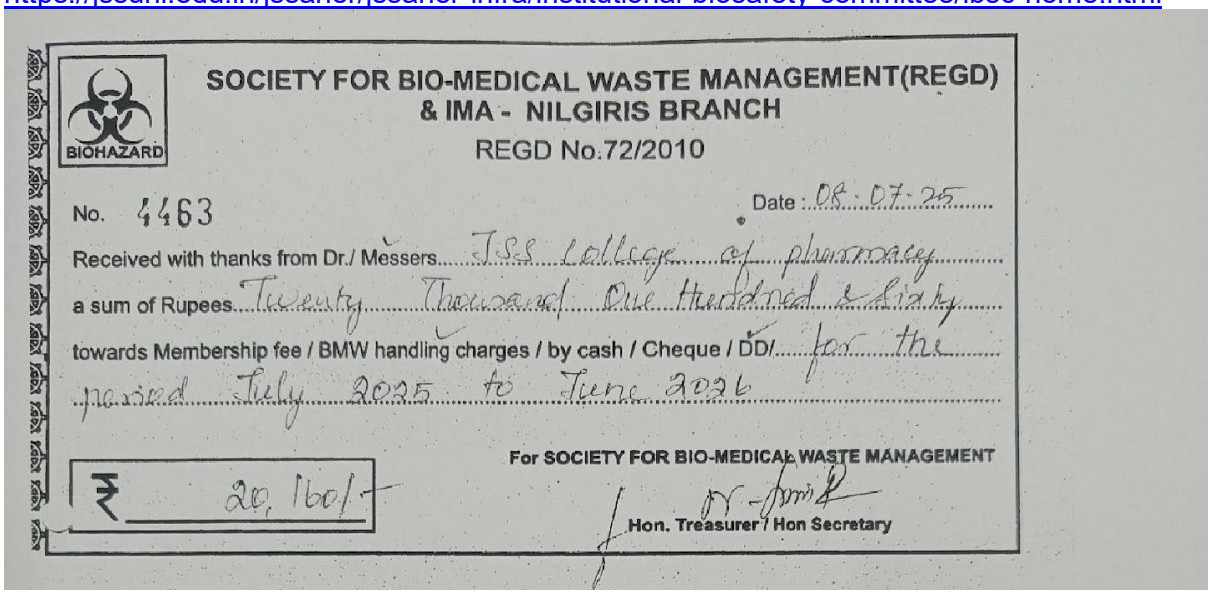
HONORARY PRESIDENT
* Subject to Renewal Annually

SOCIETY FOR BIO MEDICAL WASTE MANAGEMENT
REGD.No: 72 / 2010
Date: 20. 6 2013

HONORARY SECRETARY

Membership Certificate

The University also publishes the Waste Disposal in a detailed webpage given in the link. https://jssuni.edu.in/jssaher/jssaher-infra/institutional-biosafety-committee/ibsc-home.html



BIOHAZARD

SOCIETY FOR BIO-MEDICAL WASTE MANAGEMENT(REGD)
& IMA - NILGIRIS BRANCH
REGD No.72/2010

No. 4463 Date : 08-07-25

Received with thanks from Dr./ Messers JSS College of pharmacy

a sum of Rupees Twenty Thousand One Hundred & Sixty

towards Membership fee / BMW handling charges / by cash / Cheque / DD/ for the period July 2025 to June 2026

₹ 20,160/-

For SOCIETY FOR BIO-MEDICAL WASTE MANAGEMENT

Hon. Treasurer / Hon Secretary