## **Smart India Hackathon 2025 Problem Statements - Engineering Branch Categorization**

S.No.	Organization	Problem Statement Title	Category	PS Number	Theme	Engineering Branch(es)
1	Ministry of Development of North Eastern Region	Smart Community Health Monitoring and Early Warning System for Water-Borne Diseases in Rural Northeast India	Software	SIH25001	MedTech / BioTech / HealthTech	CSE, CSE(AI/ML)
2	Ministry of Development of North Eastern Region	Smart Tourist Safety Monitoring & Incident Response System using AI, Geo-Fencing, and Blockchain-based Digital ID	Software	SIH25002	Travel & Tourism	CSE, CSE(AI/ML)
3	Ministry of Development of North Eastern Region	Low-Cost smart transportation solution for Agri produce from remote farms to nearest motorable road in NER Region	Hardware	SIH25003	Transportation & Logistics	ME, ECE
4	Ministry of Fisheries, Animal Husbandry & Dairying	Image based breed recognition for cattle and buffaloes of India	Software	SIH25004	Agriculture, FoodTech & Rural Development	CSE, CSE(AI/ML)
5	Ministry of Fisheries, Animal Husbandry & Dairying	Image based Animal Type Classification for cattle and buffaloes	Software	SIH25005	Agriculture, FoodTech & Rural Development	CSE, CSE(AI/ML)
6	Ministry of Fisheries, Animal Husbandry & Dairying	Development of a Digital Farm  Management Portal for  Implementing Biosecurity  Measures in Pig and Poultry  Farms	Software	SIH25006	Agriculture, FoodTech & Rural Development	CSE
7	Ministry of Fisheries, Animal	Development of a Digital Farm  Management Portal for  Monitoring Maximum Residue	Software	SIH25007	Agriculture, FoodTech &	CSE

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	Husbandry &	Limits (MRL) and Antimicrobial			Rural	
	Dairying	Usage (AMU) in Livestock			Development	
8	Government of Punjab	Disaster Preparedness and Response Education System for Schools and Colleges	Software	SIH25008	Disaster Management	CSE
9	Government of Punjab	Gamified Environmental  Education Platform for Schools  and Colleges	Software	SIH25009	Smart Education	CSE
10	Government of Punjab	Smart Crop Advisory System for Small and Marginal Farmers	Software	SIH25010	Agriculture, FoodTech & Rural Development	CSE, CSE(AI/ML)
11	Government of Punjab	Smart Curriculum Activity & Attendance App	Software	SIH25011	Smart Education	CSE
12	Government of Punjab	Automated Attendance System for Rural Schools	Software	SIH25012	Smart Education	CSE
13	Government of Punjab	Real-Time Public Transport Tracking for Small Cities	Software	SIH25013	Transportation & Logistics	CSE
14	Government of Punjab	Waste Segregation Monitoring System for Urban Local Bodies	Hardware	SIH25014	Clean & Green Technology	ECE, ME
15	Government of Punjab	Intelligent Pesticide Sprinkling System Determined by the Infection Level of a Plant	Hardware	SIH25015	Agriculture, FoodTech & Rural Development	ECE, ME, CSE(AI/ML)
16	Government of Punjab	Automated Student Attendance Monitoring and Analytics System for Colleges	Software	SIH25016	Smart Education	CSE
17	Government of Punjab	Digital Platform for Centralized Alumni Data Management and Engagement	Software	SIH25017	Smart Education	CSE
18	Government of Punjab	Telemedicine Access for Rural Healthcare in Nabha	Software	SIH25018	MedTech / BioTech / HealthTech	CSE

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19	Government of Punjab	Digital Learning Platform for Rural School Students in Nabha	Software	SIH25019	Smart Education	CSE
20	Ministry of Railways	Development of indigenous contactless Integrated Track Monitoring Systems (ITMS) for Track Recording on Indian Railways	Hardware	SIH25020	Smart Automation	ECE, ME
21	Ministry of Railways	Al based development of Laser based QR Code marking on 'track fittings on Indian Railways'.	Hardware	SIH25021	Transportation & Logistics	ECE, ME, CSE(AI/ML)
22	Ministry of Railways	Maximizing Section Throughput Using Al-Powered Precise Train Traffic Control	Software	SIH25022	Transportation & Logistics	CSE, CSE(AI/ML)
23	Ministry of Ayush	AyurSutra- Panchakarma Patient Management and therapy scheduling Software	Software	SIH25023	MedTech / BioTech / HealthTech	CSE
24	Ministry of Ayush	Comprehensive Cloud-Based Practice Management & Nutrient Analysis Software for Ayurvedic Dietitians, Tailored for Ayurveda-Focused Diet Plans	Software	SIH25024	MedTech / BioTech / HealthTech	CSE
25	Ministry of Ayush	E tongue for Dravya identification	Hardware	SIH25025	MedTech / BioTech / HealthTech	ECE, CHEM
26	Ministry of Ayush	Develop API code to integrate  NAMASTE and or the  International Classification of  Diseases (ICD-11) via the  Traditional Medicine Module 2  (TM2) into existing EMR systems  that comply with Electronic  Health Record (EHR) Standards  for India.	Software	SIH25026	MedTech / BioTech / HealthTech	CSE

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27	Ministry of Ayush	Develop a blockchain-based system for botanical traceability of Ayurvedic herbs, including geo-tagging from the point of collection (farmers/wild collectors) to the final Ayurvedic formulation label.	Software	SIH25027	Blockchain & Cybersecurity	CSE
28	Government of Jharkhand	Smart Classroom & Timetable Scheduler	Software	SIH25028	Smart Education	CSE
29	Government of Jharkhand	Authenticity Validator for Academia	Software	SIH25029	Smart Education	CSE
30	Government of Jharkhand	AI-Based Crop Recommendation for Farmers	Software	SIH25030	Agriculture, FoodTech & Rural Development	CSE, CSE(AI/ML)
31	Government of Jharkhand	Crowdsourced Civic Issue Reporting and Resolution System	Software	SIH25031	Clean & Green Technology	CSE
32	Government of Jharkhand	Development of a Smart Digital Platform to Promote Eco & Cultural Tourism in Jharkhand	Software	SIH25032	Travel & Tourism	CSE
33	Ministry of Corporate Affairs	Al-Based Smart Allocation Engine for PM Internship Scheme	Software	SIH25033	Smart Automation	CSE, CSE(AI/ML)
34	Ministry of Corporate Affairs	Al-Based Internship Recommendation Engine for PM Internship Scheme	Software	SIH25034	Smart Education	CSE, CSE(AI/ML)
35	Ministry of Corporate Affairs	Sentiment analysis of comments received through E-consultation module	Software	SIH25035	Miscellaneous	CSE, CSE(AI/ML)
36	Ministry of Earth Sciences (MoES)	Development of Sensor for Detection Of Microplastics	Hardware	SIH25036	Miscellaneous	ECE, CHEM

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37	Ministry of Earth Sciences (MoES)	Development of a low-cost camera-based automated beach sand grain size mapping system	Hardware	SIH25037	Miscellaneous	ECE, CSE(AI/ML)
38	Ministry of Earth Sciences (MoES)	Blockchain-Based Blue Carbon Registry and MRV System	Software	SIH25038	Clean & Green Technology	CSE
39	Ministry of Earth Sciences (MoES)	Integrated Platform for Crowdsourced Ocean Hazard Reporting and Social Media Analytics	Software	SIH25039	Disaster Management	CSE, CSE(AI/ML)
40	Ministry of Earth Sciences (MoES)	FloatChat - Al-Powered  Conversational Interface for  ARGO Ocean Data Discovery  and Visualization	Software	SIH25040	Miscellaneous	CSE, CSE(AI/ML)
41	Ministry of Earth Sciences (MoES)	Al-Driven Unified Data Platform for Oceanographic, Fisheries, and Molecular Biodiversity Insights	Software	SIH25041	Renewable / Sustainable Energy	CSE, CSE(AI/ML)
42	Ministry of Earth Sciences (MoES)	Identifying Taxonomy and Assessing Biodiversity from eDNA Datasets	Software	SIH25042	Miscellaneous	CSE, CSE(AI/ML)
43	Ministry of Earth Sciences (MoES)	Embedded Intelligent Microscopy System for Identification and Counting of Microscopic Marine Organisms	Hardware	SIH25043	Smart Automation	ECE, CSE(AI/ML)
44	Government of Odisha	AI-Powered Crop Yield Prediction and Optimization	Software	SIH25044	Agriculture, FoodTech & Rural Development	CSE, CSE(AI/ML)
45	Government of Odisha	Blockchain-Based Supply Chain Transparency for Agricultural Produce	Software	SIH25045	Agriculture, FoodTech & Rural Development	CSE

S.No.	Organization	Problem Statement Title	Category	PS Number	Theme	Engineering Branch(es)
46	Government of Odisha	Smart Waste Segregation and Recycling System	Hardware	SIH25046	Clean & Green Technology	ECE, ME
47	Government of Odisha	Disaster Response Drone for Remote Areas	Hardware	SIH25047	Robotics and Drones	ECE, ME
48	Government of Odisha	Gamified Learning Platform for Rural Education	Software	SIH25048	Smart Education	CSE
49	Government of Odisha	Al-Driven Public Health Chatbot for Disease Awareness	Software	SIH25049	MedTech / BioTech / HealthTech	CSE, CSE(AI/ML)
50	Government of Odisha	Smart Traffic Management System for Urban Congestion	Software	SIH25050	Transportation & Logistics	CSE, CSE(AI/ML)
51	Government of Odisha	Renewable Energy Monitoring System for Microgrids	Hardware	SIH25051	Renewable / Sustainable Energy	EEE, ECE
52	Government of Odisha	AR-Based Cultural Heritage Preservation Platform	Software	SIH25052	Heritage & Culture	CSE
53	Ministry of Consumer Affairs, Food & Public Distribution (MoCA,F&PD)	Improved Onion storage technology for enhancing shelf life of onions	Hardware	SIH25053	Agriculture, FoodTech & Rural Development	ME, CHEM
54	Ministry of Consumer Affairs, Food & Public Distribution (MoCA,F&PD)	Automated High-Current Short- Circuit Test System for MCB to comply with IEC 60898-1:2015	Hardware	SIH25054	Smart Automation	EEE, ECE
55	Ministry of Consumer Affairs, Food & Public Distribution (MoCA,F&PD)	Automated Specimen Preparation System for testing of Cable samples as per IS 10810 and IS 7098.	Hardware	SIH25055	Miscellaneous	ME, EEE

S.No.	Organization	Problem Statement Title	Category	PS Number	Theme	Engineering Branch(es)
56	Ministry of Consumer Affairs, Food & Public Distribution (MoCA,F&PD)	To explore new/alternative assaying methods to the fire assay method for testing of gold jewellery and artefacts through non-destructive testing	Hardware	SIH25056	Miscellaneous	Metallurgy, ECE
57	Ministry of Consumer Affairs, Food & Public Distribution (MoCA,F&PD)	Automated Compliance Checker for Legal Metrology Declarations on E-Commerce Platforms	Hardware	SIH25057	Miscellaneous	ECE, CSE
58	Ministry of Consumer Affairs, Food & Public Distribution (MoCA,F&PD)	Detection and Prevention of Tampering in Weighing and Measuring instruments	Hardware	SIH25058	Miscellaneous	ECE, ME
59	Ministry of Social Justice & Empowerment (MoSJE)	Enhancing Student Awareness on difference between Aadhaar linked and Direct Beneficiary Transfer(DBT) enabled Aadhaar seeded bank account.	Software	SIH25059	Miscellaneous	CSE
60	Ministry of Social Justice & Empowerment (MoSJE)	Real life solutions for Waste Management.	Software	SIH25060	Clean & Green Technology	CSE
61	Government of Sikkim	Digitize and Showcase  Monasteries of Sikkim for  Tourism and Cultural  Preservation	Software	SIH25061	Travel & Tourism	CSE
62	Government of Sikkim	Implementation of Smart Agriculture for Efficient Cultivation in Hilly Regions	Hardware	SIH25062	Agriculture, FoodTech &	ECE, ME

S.No.	Organization	Problem Statement Title	Category	PS Number	<b>Theme</b> Rural	Engineering Branch(es)
					Development	
63	Government of Kerala	Developing a cost effective solution for detecting the breakage of Low Voltage AC Distribution Over Head conductors	Hardware	SIH25063	Disaster Management	EEE, ECE
64	Government of Kerala	Improving the Renewable Energy hosting capacity in Distribution Feeders improving the Power quality of Distribution network during high RE injection	Hardware	SIH25064	Renewable / Sustainable Energy	EEE
65	Ministry of Jal Shakti	Designing and development of an application for on spot assessment of Roof Top Rain water harvesting and artificial recharge potential and size of the RTRWH and AR.	Software	SIH25065	Smart Automation	CSE, CIVIL
66	Ministry of Jal Shakti	Development of an Al-driven ChatBOT for INGRES as a virtual assistant	Software	SIH25066	Smart Automation	CSE, CSE(AI/ML)
67	Ministry of Jal Shakti	Proposal for Design and development of application or Heavy Metal Pollution indices	Software	SIH25067	Miscellaneous	CSE, CHEM
68	Ministry of Jal Shakti	Real time Groundwater resource evaluation using DWLR data	Software	SIH25068	Miscellaneous	CSE, CIVIL
69	Ministry of Mines	AI-Driven Life Cycle Assessment (LCA) Tool for Advancing Circularity and Sustainability in Metallurgy and Mining	Software	SIH25069	Miscellaneous	CSE, CSE(AI/ML) Metallurgy
70	Ministry of Mines	Secure Data Wiping for Trustworthy IT Asset Recycling	Software	SIH25070	Miscellaneous	CSE

S.No.	Organization	Problem Statement Title	Category	PS Number	Theme	Engineering Branch(es)
71	Ministry of Mines	Al-Based Rockfall Prediction and Alert System for Open-Pit Mines	Software	SIH25071	Disaster Management	CSE, CSE(AI/ML), Metallurgy
72	Ministry of Mines	Design and Implementation of Solar-Powered Dewatering in Mining Operations.	Hardware	SIH25072	Renewable / Sustainable Energy	EEE, ME, Metallurgy
73	Ministry of Youth Affairs and Sports	Al-Powered Mobile Platform for Democratizing Sports Talent Assessment	Software	SIH25073	Fitness & Sports	CSE, CSE(AI/ML)
74	Government of Kerala	AI-Powered Personal Farming Assistant for Kerala Farmers	Software	SIH25074	Agriculture, FoodTech & Rural Development	CSE, CSE(AI/ML)
75	Government of Kerala	Gamified Platform to Promote Sustainable Farming Practices	Software	SIH25075	Agriculture, FoodTech & Rural Development	CSE
76	Government of Kerala	Al-Based Farmer Query Support and Advisory System	Software	SIH25076	Agriculture, FoodTech & Rural Development	CSE, CSE(AI/ML)
77	Government of Kerala	A hardware that can detect and prevent unauthorized use of electric fences	Hardware	SIH25077	Smart Automation	EEE, ECE
78	Government of Kerala	Software other than a circuit breaker that can be used to detect and turn off LT lines when the line breaks	Software	SIH25079	Disaster Management	CSE, EEE
79	Government of Kerala	Document Overload at Kochi Metro Rail Limited (KMRL)-An automated solution	Software	SIH25080	Smart Automation	CSE
80	Government of Kerala	Al-Driven Train Induction Planning & Scheduling for Kochi Metro Rail Limited (KMRL)	Software	SIH25081	Smart Automation	CSE, CSE(AI/ML)

S.No.	Organization	Problem Statement Title	Category	PS Number	Theme	Engineering Branch(es)
81	Government of Kerala	Development of a travel related software app that can be installed on mobile phones that could capture trip related information	Software	SIH25082	Travel & Tourism	CSE
82	Government of Kerala	Digital Health Record  Management System for migrant workers in Kerala aligned with sustainable development goals.	Software	SIH25083	MedTech / BioTech / HealthTech	CSE
83	Government of Kerala	Earthquake stabilised dialysis system for patient safety during seismic events.	Hardware	SIH25084	Disaster Management	ME, EEE
84	Government of Kerala	Solution for NON-REVENUE LOSS IN WATER SUPPLY Solution to improve AWARENESS IN WATER CONSERVATION TREATMENT OF WASTE WATER AND REUSE FOR DOMESTIC PURPOSES	Hardware	SIH25085	Miscellaneous	CIVIL, ECE
85	Government of Kerala	GREY WATER MANAGEMENT AND REUSE WET LAND MANAGEMENT WATER CONSERVATION	Hardware	SIH25090	Clean & Green Technology	CIVIL, CHEM
86	Government of Jammu and Kashmir	Al-Based Timetable Generation System aligned with NEP 2020 for Multidisciplinary Education Structures	Software	SIH25091	Smart Automation	CSE, CSE(AI/ML)
87	Government of Jammu and Kashmir	Development of a Digital  Mental Health and  Psychological Support System  for Students in Higher Education	Software	SIH25092	MedTech / BioTech / HealthTech	CSE
88	Government of Jammu and Kashmir	Centralised Digital Platform for Comprehensive student activity record in HEIs	Software	SIH25093	Smart Education	CSE

S.No.	Organization	Problem Statement Title	Category	PS Number	Theme	Engineering Branch(es)
89	Government of Jammu and Kashmir	One-Stop Personalized Career & Education Advisor	Software	SIH25094	Smart Education	CSE, CSE(AI/ML)
90	Autodesk	Research and redesign a sport equipment commonly found in sport industry and utilize Fusion software to reimagine its design. Students can use Fusion Features such as Generative Design, Topology Optimization, Additive Build etc. The redesigned component should showcase innovation, enhanced functionality, and improved efficiency, all while being optimized for 3D printing.	Hardware	SIH25095	Smart Education	ME
91	Autodesk	Students are supposed to use Fusion software to generate NC code with machine details & tool library for any industrial component. Students should possess technical skills in areas such as CAD/CAM software, G- code programming, toolpath optimization, and machining fundamentals. Additionally, their project ideas should demonstrate a viable solution to a real-world problem, ensuring feasibility and practicality in implementation.	Hardware	SIH25096	Smart Education	ME
92	Autodesk	Research and develop a design on autonomous small precision focused machine for planting crops or weeding.	Software	SIH25097	Smart Education	ME, CSE(AI/ML)

S.No.	Organization	Problem Statement Title	Category	PS Number	Theme	Engineering Branch(es)
93	Autodesk	Students are tasked with designing a 4-story commercial office building using Revit Architecture and Revit Structure, ensuring effective integration between architectural and structural models in a BIM environment. (The size of the plot can be assumed by the students, all the dimensions wherever necessary can be assumed by students in mm units.)	Software	SIH25098	Smart Education	CIVIL
94	MathWorks India Pvt. Ltd.	Al-powered monitoring of crop health, soil condition, and pest risks using multispectral/hyperspectral imaging and sensor data.	Software	SIH25099	Agriculture, FoodTech & Rural Development	CSE, CSE(AI/ML), ECE
95	MathWorks India Pvt. Ltd.	Accelerating High-Fidelity Road Network Modeling for Indian Traffic Simulations.	Software	SIH25100	Transportation & Logistics	CSE, CIVIL
96	Government of Rajasthan	Remote classroom for rural colleges	Software	SIH25101	Smart Education	CSE
97	Government of Rajasthan	Al-based drop-out prediction and counseling system	Software	SIH25102	Smart Automation	CSE, CSE(AI/ML)
98	Government of Rajasthan	ERP-based Integrated Student Management system	Software	SIH25103	Smart Automation	CSE
99	Government of Rajasthan	Language Agnostic Chatbot	Software	SIH25104	Smart Education	CSE, CSE(AI/ML)
100	AICTE	Develop computer programs (in any language, preferably Python) to identify the design principles behind the Kolam designs and recreate the kolams.	Software	SIH12507	Heritage & Culture	CSE

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101	Ministry of Tribal Affairs(MoTA)	Development of Al-powered FRA Atlas and WebGIS-based Decision Support System (DSS) for Integrated Monitoring of Forest Rights Act (FRA) Implementation. (States to be concentrated: Madhya Pradesh, Tripura , Odisha, Telangana)	Software	SIH12508	Miscellaneous	CSE, CSE(AI/ML)
102	AICTE	Student Innovation	Hardware	SIH25109	Agriculture, FoodTech & Rural Development	ME, ECE
103	AICTE	Student Innovation	Hardware	SIH25110	Blockchain & Cybersecurity	CSE, ECE
104	AICTE	Student Innovation	Hardware	SIH25111	Clean & Green Technology	ME, ECE, CHEM
105	AICTE	Student Innovation	Hardware	SIH25112	Fitness & Sports	ME, ECE
106	AICTE	Student Innovation	Hardware	SIH25113	Heritage & Culture	CSE, ECE
107	AICTE	Student Innovation	Hardware	SIH25114	MedTech / BioTech / HealthTech	ECE, ME
108	AICTE	Student Innovation	Hardware	SIH25115	Miscellaneous	All Branches
109	AICTE	Student Innovation	Hardware	SIH25116	Renewable / Sustainable Energy	EEE, ME
110	AICTE	Student Innovation	Hardware	SIH25117	Robotics and Drones	ECE, ME
111	AICTE	Student Innovation	Hardware	SIH25118	Smart Automation	ECE, ME
112	AICTE	Student Innovation	Hardware	SIH25119	Smart Vehicles	ME, ECE
113	AICTE	Student Innovation	Hardware	SIH25120	Travel & Tourism	CSE, ECE

S.No.	Organization	Problem Statement Title	Category	PS Number	Theme	Engineering Branch(es)
114	AICTE	Student Innovation	Hardware	SIH25121	Transportation & Logistics	ME, ECE
115	AICTE	Student Innovation	Hardware	SIH25122	Disaster Management	ECE, ME
116	AICTE	Student Innovation	Hardware	SIH25123	Smart Education	CSE, ECE
117	AICTE	Student Innovation	Hardware	SIH25124	Toys & Games	ME, ECE
118	AICTE	Student Innovation	Hardware	SIH25125	Space Technology	ECE, ME
119	AICTE	Student Innovation	Software	SIH25126	Agriculture, FoodTech & Rural Development	CSE, CSE(AI/ML)
120	AICTE	Student Innovation	Software	SIH25127	Blockchain & Cybersecurity	CSE
121	AICTE	Student Innovation	Software	SIH25128	Clean & Green Technology	CSE
122	AICTE	Student Innovation	Software	SIH25129	Fitness & Sports	CSE
123	AICTE	Student Innovation	Software	SIH25130	Heritage & Culture	CSE
124	AICTE	Student Innovation	Software	SIH25131	MedTech / BioTech / HealthTech	CSE
125	AICTE	Student Innovation	Software	SIH25132	Miscellaneous	CSE
126	AICTE	Student Innovation	Software	SIH25133	Renewable / Sustainable Energy	CSE
127	AICTE	Student Innovation	Software	SIH25134	Robotics and Drones	CSE
128	AICTE	Student Innovation	Software	SIH25135	Smart Automation	CSE
129	AICTE	Student Innovation	Software	SIH25136	Smart Vehicles	CSE

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130	AICTE	Student Innovation	Software	SIH25137	Travel & Tourism	CSE
131	AICTE	Student Innovation	Software	SIH25138	Transportation & Logistics	CSE
132	AICTE	Student Innovation	Software	SIH25139	Disaster Management	CSE
133	AICTE	Student Innovation	Software	SIH25140	Smart Education	CSE
134	AICTE	Student Innovation	Software	SIH25141	Toys & Games	CSE
135	AICTE	Student Innovation	Software	SIH25142	Space Technology	CSE

## **Engineering Branch Distribution Summary:**

**CSE (Computer Science and Engineering):** 79 problem statements **CSE(AI/ML) (Computer Science and Engineering - AI/ML):** 35 problem statements

ECE (Electronics and Communication Engineering): 37 problem statements EEE (Electrical and Electronics Engineering): 8 problem statements ME (Mechanical Engineering): 26 problem statements CIVIL (Civil Engineering): 6 problem statements CHEM (Chemical Engineering): 6 problem statements Metallurgy: 4 problem statements

## **Notes:**

- Many problem statements are suitable for multiple engineering branches, allowing for interdisciplinary collaboration
- Software-based problems are predominantly suitable for CSE and CSE(AI/ML) branches
- Hardware problems often require collaboration between ECE, ME, and EEE branches
- Specialized domains like mining, metallurgy, and chemical processing involve their respective branches
- The AICTE Student Innovation problems (102-135) are generic category-based problems that can be adapted by different branches based on the theme