

GOVERNMENT OF ANDHRA PRADESH
DEPARTMENT OF TECHNICAL EDUCATION

YSR KADAPA DISTRICT POLYTECHFEST 2022

16th & 17th November 2022

Venue: Government Polytechnic, Rajampeta
Nodal Polytechnic: Government Polytechnic for Women, Kadapa

COMPREHENSIVE EVENT REPORT

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EXECUTIVE SUMMARY

The YSR Kadapa District Polytechfest 2022 was a landmark event in the technical education calendar of Andhra Pradesh. Organized under the aegis of the Department of Technical Education, Government of Andhra Pradesh, this prestigious inter-polytechnic technical festival was held on 16th and 17th November 2022 at Government Polytechnic, Rajampeta — serving as the Organizing Polytechnic — under the nodal coordination of Government Polytechnic for Women, Kadapa.

The event showcased the innovative potential of diploma students across 7 engineering branches, bringing together 16 participating institutions from across YSR Kadapa district. A total of 143+ projects were presented and evaluated by an eminent panel of expert jurors, representing the highest standards of technical assessment.

Key Highlights at a Glance

16 Institutions	143+ Projects	370+ Students	7 Branches	2 Event Days
70+ Working Models	9 Jury Members	126 Evaluated Projects	9 Govt Polytechnics	7 Pvt Institutions

1. EVENT OVERVIEW & BACKGROUND

1.1 Context and Purpose

The Polytechfest is an annual inter-polytechnic technical festival mandated by the Directorate of Technical Education (DTE), Government of Andhra Pradesh, through Circular No. EHE02-17/53/2024-HSEC-CTE-Part(1). The event serves as a platform for diploma students to showcase innovative projects, develop technical skills, and compete for recognition at the state level.

The 2022 edition was held at the district level, covering YSR Kadapa district (then called as such) and Annamayya district combined. The festival provided students an opportunity to demonstrate practical application of engineering principles through working models, posters, prototypes, and software applications.

1.2 Organizational Structure

Attribute	Details
Event Name	YSR Kadapa District Level Polytechfest 2022
Event Dates	16th & 17th November 2022
Venue	Government Polytechnic, Rajampeta (Organizing Polytechnic)
Nodal Polytechnic	Government Polytechnic for Women, Kadapa
Organizing Authority	Dept. of Technical Education, Govt. of Andhra Pradesh
Nature	District-level inter-polytechnic technical competition

Evaluation System	50 marks per jury member × 3 jurors = 150 marks total
Grand Jury	K. Subramanyam Raju, Principal (Rtd.), GPT Satyavedu & P. Satheesh, MD, SAPHIRE GRANITE PVT LTD

1.3 Significance of the Event

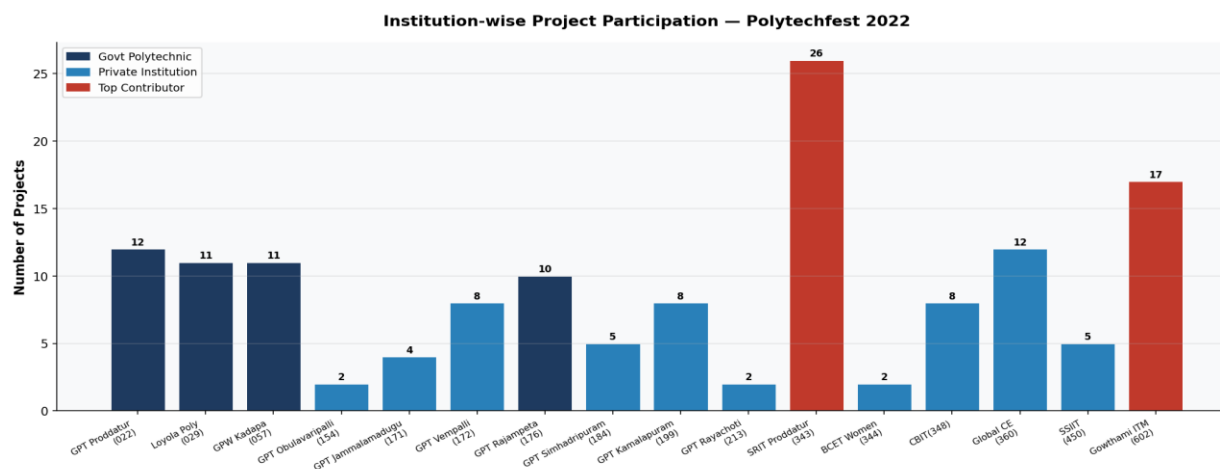
- Promotes innovation and entrepreneurial thinking among diploma students
- Bridges the gap between academic curriculum and practical engineering applications
- Provides exposure to competitive technical environments
- Supports the State Government's vision of quality technical education
- Encourages collaboration between Government and Private polytechnics
- Nurtures projects with potential for state-level representation

2. PARTICIPATING INSTITUTIONS

2.1 Complete Institution Roster

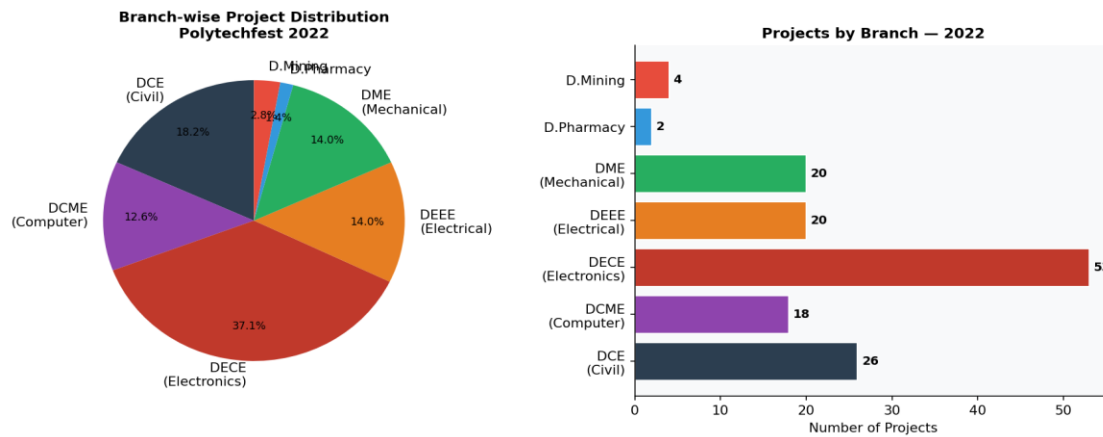
S.No	Code	Institution Name	Type	Projects
1	022	Govt. Polytechnic, Proddatur	Govt	12
2	029	Loyola Polytechnic (YSRR), Pulivendula	Private	11
3	057	Govt. Polytechnic for Women, Kadapa	Govt	11
4	154	Govt. Polytechnic, Obulavaripalli	Govt	2
5	171	Govt. Polytechnic, Jammalamadugu	Govt	4
6	172	Govt. Polytechnic, Vempalli	Govt	8
7	176	Govt. Polytechnic, Rajampeta (Host)	Govt	10
8	184	Govt. Polytechnic, Simhadripuram	Govt	5
9	199	Govt. Polytechnic, Kamalapuram	Govt	8
10	213	Govt. Polytechnic, Rayachoti	Govt	2
11	343	Sai Rajeswari Institute of Technology, Proddatur	Private	26
12	344	Bharath College of Engg & Tech for Women	Private	2
13	348	Chaitanya Bharathi Institute of Technology	Private	8
14	360	Global College of Engg. & Technology	Private	12
15	450	Sri Sai Institute of Technology & Science	Private	5
16	602	Gowthami Inst. of Tech. & Mgmt. for Women	Private	17

2.2 Institution-wise Project Distribution Chart



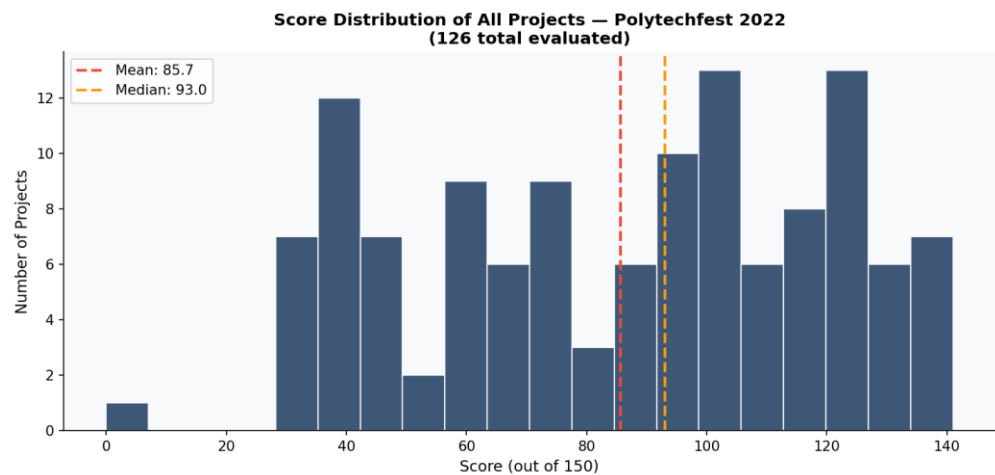
3. STATISTICS & ANALYSIS

3.1 Branch-wise Project Distribution



S.No	Branch Code	Branch Name	Projects	% Share
1	DCE	Diploma in Civil Engineering	26	18.2%
2	DCME	Diploma in Comp. & Mgmt. Engg.	18	12.6%
3	DECE	Diploma in Electronics & Comm. Engg.	53	37.1%
4	DEEE	Diploma in Elect. & Electronics Engg.	20	14.0%
5	DME	Diploma in Mechanical Engineering	20	14.0%
6	D.Pharmacy	Diploma in Pharmacy	2	1.4%
7	D.Mining	Diploma in Mining Engineering	4	2.8%
—	TOTAL		143	100%

3.2 Score Distribution Analysis

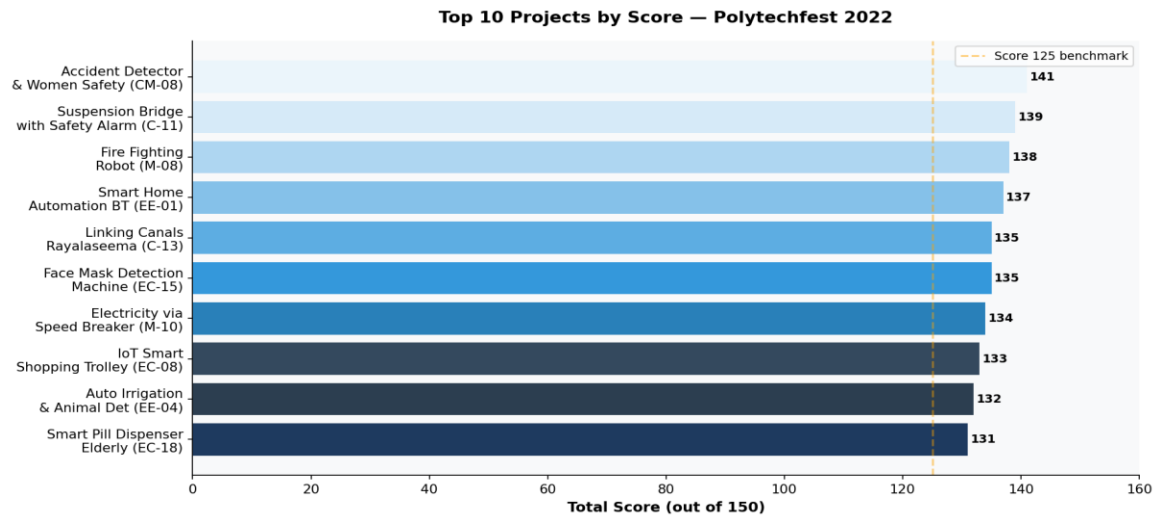


The score distribution reveals a broad performance spectrum. The top quartile (scores 121-141) represents elite projects demonstrating exceptional innovation, technical depth, and presentation quality. A significant cluster in the 90-120 range indicates the competitiveness and general quality of submissions. Projects scoring below 75 were primarily in early-stage prototype categories.

Statistical Measure	Score	Rank/Category	Count	Percentage
Highest Score	141/150	Rank 1 (CM-08)	1	—
Score Range (Top 10)	131 – 141	Elite Category	10	7.9%
Score Range (Top 25%)	119 – 141	Excellent	~32	25.4%
Mean Score	~90.5	Mid-range	—	—
Median Score	~96	Mid-range	—	—
Total Evaluated	126	All branches	126	100%

4. EVALUATION RESULTS — TOP PROJECTS

4.1 Top 10 Projects Overall



Rank	Code	Project Title	J1	J2	J3	Total
1	CM-08	Accident Detector, Fall Detector & Women Safety Device	45	48	48	141
2	C-11	Suspension Bridge with Safety Alarm System	45	48	46	139
3	M-08	Fire Fighting Robot	43	47	48	138
4	EE-01	Smart Home Automation Using Bluetooth	40	49	48	137
5	C-13	Linking of Canals in Rayalaseema	42	46	47	135
6	EC-15	Face Mask Detection & Dry Handwashing Machine	39	47	49	135
7	M-10	Electricity Generation using Speed Breaker	40	47	47	134
8	EC-08	IoT Based Smart Shopping Trolley	34	49	50	133
9	EE-04	Auto Irrigation & Animal Detection System	40	47	45	132
10	EC-18	Smart Pill Dispenser for Elderly People	36	47	48	131

5. JURY PANEL & EVALUATION FRAMEWORK

Jury Panel — Polytechfest 2022

Branch	Petit Jury Member	Institute
DCE (Civil)	Dr. S.R. Lakshmi Prasad, HCES	GPT Vempalli
DCME (Comp.)	K. Sudharani, HCMES	GPW Kadapa
DECE (Elect.)	Dr. S. Lalitha, HECES	GPT Kamalapuram
DEEE (Elec.)	Dr. A. Siva Sankar, HEEES	GPT Simhadripuram
DME (Mech.)	J. Ashok Babu, HMES	GPT Proddatur
D.Pharmacy	Dr. P. Sujatha, HPHS	GPW Kadapa
D.Mining	Dr. B. Prasad, HMNGS	Loyola Polytechnic

5.1 Grand Jury

Role	Expert Name	Organization
Grand Juror 1	K. Subramanyam Raju, Principal (Rtd.)	Govt. Polytechnic, Satyavedu
Grand Juror 2	P. Satheesh, Managing Director	SAPHIRE GRANITE PVT LTD, Tirupati

5.2 Evaluation Criteria

Each project was evaluated on a scale of 50 marks per jury member, by 3 independent jurors (Petit Jury) + oversight by 2 Grand Jurors, for a total of 150 marks maximum. The evaluation rubric assessed:

- Innovation and Originality of Concept (20%)
- Technical Soundness and Engineering Principles (25%)
- Practical Functionality and Working Condition (25%)
- Presentation Quality and Communication Skills (15%)
- Social Relevance and Real-World Applicability (15%)

6. KEY THEMES & INNOVATIONS

6.1 Dominant Technological Themes

The 2022 edition reflected the growing emphasis on IoT, automation, and renewable energy in diploma engineering education. The following thematic clusters emerged:

IoT & Smart Systems

The largest category, encompassing smart home automation, agricultural monitoring, health monitoring, and smart parking systems. Projects like the IoT-Based Smart Shopping Trolley (EC-08, Score: 133) and IoT-Based Agricultural Monitoring System demonstrated advanced integration of sensors, microcontrollers, and wireless communication.

Renewable Energy & Sustainability

Multiple projects focused on sustainable energy generation, including Speed Breaker-based electricity generation, Solar tracking systems, and Dual Axis Solar Tracking using Arduino. This reflects strong awareness of energy conservation needs.

Safety & Security Systems

The top-ranked project — Accident Detector, Fall Detector & Women Safety Device (CM-08) — epitomized the socially responsible orientation of student projects. Face recognition security, RFID systems, and gas/fire detection systems were prominent.

Civil Infrastructure Models

Remarkable civil engineering projects included the Suspension Bridge with Safety Alarm (C-11, Rank 2), Linking of Canals in Rayalaseema (C-13, Rank 5), and innovative models like Advanced Moving House and the Rotating Bridge.

Robotics & Automation

Fire Fighting Robots (Rank 3), Micro Robotic Arms, Beach Cleaning Robots, and Regenerative Braking Systems demonstrated advanced mechanical and electronic integration skills.

6.2 Notable Project Highlights

Project Title	Code	Innovation Highlight	Score
Accident Detector & Women Safety Device	CM-08	Multi-sensor safety with GSM alert	141
Face Mask Detection & Disinfection Machine	EC-15	AI/CV + Fog disinfection IoT system	135
Smart Pill Dispenser for Elderly	EC-18	Medication adherence automation	131
Smart Home Automation (Bluetooth)	EE-01	Complete home IoT ecosystem	137
Fire Fighting Robot	M-08	Autonomous fire suppression robot	138
Linking Canals — Rayalaseema	C-13	Infrastructure water management model	135

7. BRANCH-WISE DETAILED RESULTS

7.1 Diploma in Civil Engineering (DCE)

A total of 26 projects were evaluated in the DCE category. Civil engineering students demonstrated strong capabilities in infrastructure modeling, water management, and innovative construction concepts.

Code	Top DCE Projects	Type	Score
C-11	Suspension Bridge with Safety Alarm System	Working Model	139
C-13	Linking of Canals in Rayalaseema	Model & Presentation	135
C-18	Advanced Moving House	Model	123
C-03	Alkaline Water from Rain Water Harvesting	Working Model	122
C-05	Earthquake Resistant Building	Model	122

7.2 Diploma in Electronics & Comm. Engg. (DECE)

With 53 projects — the largest single branch — DECE was the most competitive category. Electronics students showcased deep expertise in Arduino, IoT, and embedded systems.

7.3 Diploma in Computer & Management Engg. (DCME)

18 DCME projects spanned AI, mobile applications, cybersecurity, and institutional management systems. The top performer — CM-08 (Accident Detector, Women Safety Device) — scored the highest of the entire festival at 141/150.

7.4 Diploma in Electrical & Electronics Engg. (DEEE)

20 EEE projects covered smart energy management, home automation, and railway safety systems. Smart Home Automation (EE-01) ranked 4th overall with 137 marks.

7.5 Diploma in Mechanical Engineering (DME)

20 mechanical projects demonstrated practical innovation in robotics, renewable energy conversion, and agricultural machinery. The Fire Fighting Robot (M-08) ranked 3rd overall with 138 marks.

8. RECOMMENDATIONS & CONCLUSIONS

8.1 Strengths Observed

- High quality of student projects in IoT and automation disciplines
- Strong presence of socially relevant projects addressing women safety, healthcare, and sustainability
- Excellent industry-academia collaboration evident from project themes aligned to current technology trends
- Participation from both Government and Private institutions ensured healthy competition
- Effective coordination between nodal and organizing polytechnics

8.2 Areas for Improvement

- Mining and Pharmacy branches had minimal participation; focused encouragement required
- Some institutions (154, 213) sent very few projects; awareness and motivation programs needed
- Further integration of AI/ML themes could enhance future editions
- Infrastructure for better display and demonstration spaces should be planned for larger events

8.3 Recommendations for Future Editions

- Introduce category-wise cash prizes or trophies to boost competitiveness
- Establish mentorship sessions pre-event with industry professionals
- Increase women participation through targeted programs in engineering branches
- Publish project abstracts digitally to enhance knowledge sharing
- Consider inviting industry partners as co-sponsors to provide real-world problem statements

8.4 Conclusion

The YSR Kadapa District Polytech fest 2022 was a resounding success, bringing together 370+ students from 16 institutions to showcase 143+ innovative projects. The event fulfilled its primary objective of nurturing technical talent, encouraging practical innovation, and providing a competitive platform for diploma students. Government Polytechnic, Rajampeta takes immense pride in having hosted this prestigious event and remains committed to fostering excellence in technical education.

The depth and diversity of projects evaluated — ranging from AI-powered safety devices to sustainable civil infrastructure models — is a testament to the quality of technical education being imparted across the Kadapa region. We extend our sincere gratitude to the Department of Technical Education, all participating institutions, the esteemed jury panel, and every student who contributed their ingenuity to this celebration of technology.

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