Republic of the Philippines
Department of Education
NEGROS ISLAND REGION

REGIONAL MEMORANDUM
No. 1386, s. 2026

NOV 26 2026

RESULTS OF THE PRE-SCREENING OF ENTRIES FOR THE 2026 REGIONAL SCIENCE AND TECHNOLOGY FAIR

To: Schools Division Superintendents
All Others Concerned

1. The Regional Office, through the Curriculum and Learning Management Division (CLMD), announces the results of the pre-screening of entries for the 2026 Regional Science and Technology Fair (RSTF) through the evaluation and validation conducted by the Regional Scientific Review Committee (SRC).

2. The competition featured the TUKLAS STEM Research Competition (Life Science, Physical Science, Robotics and Intelligent Machines, and Mathematics and Computational Science) and the STEM Innovation Expo across key thematic areas. Qualifiers were evaluated based on established scientific review and judging criteria.

3. The entries that have successfully passed the pre-screening and validation process are qualified to participate in the 2026 RSTF on November 27–29, 2026 in Bais City, Negros Oriental.

4. The official list of qualified entries is provided in the Enclosure for reference and guidance of all concerned.

5. Immediate dissemination of and compliance with this Memorandum are desired.

RAMIR B. UYTICO EdD, CESO III
Regional Director

Encl.: As stated
Reference: As stated
To be indicated in the Perpetual Index
under the following subjects:

PROGRAM COMPETITION CURRICULUM

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Enclosure to RM No. 1386, s. 2026

REGIONAL SCIENCE & TECHNOLOGY FAIR 2026 QUALIFIED ENTRIES

1. TUKLAS – LIFE SCIENCE

A. INDIVIDUAL CATEGORY

	ENTRY CODE	SCHOOLS DIVISION OFFICE	RESEARCH TITLE
1	LS-I-SDO1-A	Himamaylan City	From Bark to Biotherapy: Bioactivity-Guided Isolation, Spectroscopic Structural Elucidation, and Integrated In Vitro–In Silico Pharmacokinetic Profiling of Cytotoxic Morinda citrifolia Anthraquinones Against MCF-7 Human Breast Adenocarcinoma
2	LS-I-SDO4-A	Siquijor	PHYTOSHIELD: Phytochemical Analysis and In Vitro Evaluation of Pahauli (Anaxagorea luzonensis) for Larvicidal Activity against Fall Armyworm (Spodoptera frugiperda)
3	LS-I-SDO6-A	Bais City	Development and Evaluation of Herbal Veterinary Soap Formulated from Neem (Azadirachta indica) oil, Calamansi Extract, and Eucalyptus (Eucalyptus globulus) Oil for Immobilization of Dog Tick (Rhipicephalus sanguineus)
4	LS-I-SDO7-A	Negros Occidental	Biomechanical Performance and Biocompatibility of Anisotropic Ligament Scaffolds from Sargassum polycystum using Green Citrate-chelated Extraction of Alginate for Directional Tissue Engineering

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5	LS-I-SDO10-A	Negros Oriental	In Ovo Evaluation, In Silico Molecular Docking and ADMET Predictions of the Anti-Angiogenic Activity ofWatery Rose Apple (Syzygium aqueum) Leaf EthanolicExtract on the Chorioallantoic Membrane of Itik Pinas (Anas platyrhynchos domesticus) Embryos
6	LS-I-SDO10-B	Negros Oriental	BIoactivity Assessment of Pansit-pansitan (Peromia Pellucida) Extract for Yeast Suppression and anti-hyperuricemic potential using a Novel Avian-Derived Substrate Model
7	LS-I-SDO11-A	Bacolod City	Mangrove Habitat Characteristics and the Diversity of Waterbirds and Terrestrial Birds in Prk. Roma, Brgy. Punta Taytay, Bacolod City, Negros Occidental, Philippines
8	LS-I-SDO11-B	Bacolod City	EPIPHYTIC LICHEN DIVERSITY AS AN AIR QUALITY BIOINDICATOR ACROSS CAMPUS SITES IN BACOLOD CITY
9	LS-I-SDO13-A	Talisay City	Trojan-Horse Delivery of Crude Bacteriocin via Inactivated Lactobacillus gasseri Shells for Enhanced Disruption of Escherichia coli Biofilm Using EDTAand Green-Synthesized Copper oxide Nanoparticles Derived from Psidium guajava Leaf Extract
10	LS-I-SDO13-B	Talisay City	Sporevivability: Investigating the Potential of an Okra–Chitosan Polymeric Carrier Suspension Spray for Beauveria bassianaSpore Germination and Post-Heat-Stress Viability
11	LS-I-SDO15-A	Bayawan City	Toxicological Evaluation and Phytochemical Screening of Minnieroot (Ruellia tuberosa) Leaf Extract Against Aedes spp. Mosquito Larvae

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12	LS-I-SDO16-A	Victorias City	SILICA CELLULOSE AND ALOE VERA MUCILAGE SYNERGY: A FOLIAR SOLUTION FOR DROUGHT TOLERANCE AND RSSI CONTROL IN SUGARCANE
13	LS-I-SDO18-A	Dumaguete City	In Silico and In Vivo Evaluation of Pomacea canaliculata (Caenogastropoda: Ampullariidae)-Associated Symbiotic Bacterial and Zoochemical Fractions Against Medulloblastoma Brain Cancer
14	LS-I-SDO19-A	Sipalay City	Investigating Gut Microbial Metabolites in Scopolamine-Induced Sprague-Dawley Rats (Rattus norvegicus) as Potential Biomarker Candidates for Alzheimer's Disease
15	LS-I-SDO22-A	Cadiz City	Phytochemical Screening and Larvicidal Effect of Aratiles (Muntingia calabura) Leaves Extraction on Mosquito (Aedes aegypti) Larvae

B. TEAM CATEGORY

	ENTRY CODE	**SCHOOLS DIVISION OFFICE**	**RESEARCH TITLE**
1	LS-T-SDO1-A	Himamaylan City	Nephroprotective Mechanisms of Annatto (Bixa orellana) Seed Methanolic Extract Through Integrated Multimodal Bioactivity Assessment: In Silico Molecular Docking, In Vivo, and In Vitro Analyses
2	LS-T-SDO2-A	La Carlota City	In Vitro and In Vivo Biological Activities of Protein Hydrolysates from Indian Anchovies (Stolephorus indicus): Antiangiogenic, Antimitotic, and Cytotoxic Effects
3	LS-T-SDO3-B	Silay City	COSHIELD: Cogon (Imperata cylindrica) Rhizome Extract—Mediated Inhibition of

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			Biofilm Formation in Pseudomonas aeruginosa
4	LS-T-SDO4-A	Siquijor	BUGAS: Bran Utilization Guided by Antioxidant Screening and Phytochemical Profiling of Pigmented Red Rice (Oryza sativa L.) Extracts Using Varying Sample-to-Solvent Ratios
5	LS-T-SDO5-A	Kabankalan City	Synergistic Antifungal Activity Of Shrimp (Caridea) Shell- Derived Chitosan And Rice (Oryza Sativa) Husk Ash Against Sheath Blight (Rhizoctonia Solani) In Rice: An Empirical Evaluation For Sustainable Crop Protection
6	LS-T-SDO7-A	Negros Occidental	EROPTO-REST (Erythrocyte-Stabilizing Optimization): An Integrated In Silico Caspase-3/Calpain-1 Target Mapping and In Vitro Evaluation of Blue Ternate (Clitoria ternatea) Against Hydrogen Peroxide- and Cisplatin-Associated Erythrocyte Damage and Cell Shrinkage for Its Potential Application in Chemotherapy-Induced Anemia
7	LS-T-SDO8-A	Bago City	Batuan Prospecting: Metabolite Profiling and Multi-Target Enzyme Screening of Batuan (Garcinia binucao) leaf Extrac through in Vitro Antidiabetic Activity Assays sand In Siico Targeting of Fibrosis-Associated TGFR1/ALK5
8	LS-T-SDO12-A	Sagay City	Comparative Effects of Vermicast Tea and Black Soldier Fly Larvae Frass Tea on the Morphological and Yield Performance of Green Onion (Allium fistulosum L.)
9	LS-T-SDO13-A	Talisay City	BAMBWOUND: Synthesis and Characterization of Mesoporous Silica Nanoparticles Derived from Bamboo (Bambusa vulgaris L.) Waste for

			Application in Angiogenesis-Assisted Wound Healing
10	LS-T-SDO13-B	Talisay City	In vivo Mitigation of Simulated Volcanic Ash-Induced Teratogenicity via Ionotropically Gelated, STPP-Crosslinked Chitosan-Encapsulated Moringa oleifera and Cymbopogon citratus Aqueous Leaf Extracts in an Artemia salina Mode
11	LS-T-SDO15-A	Bayawan City	Phytochemical-Induced Mitotic Arrest: Evaluating the Mitotic Blockade Efficacy of Ficus Septica Leaf Extract Using an Onion (Allium Cepa) Root Tip Bioassay
12	LS-T-SDO16-A	Victorias City	Isolation, Screening, and Preliminary Hydroprocessing of Lipids from Indigenous Oleaginous Yeasts of Gawahon Forest Park, Victorias City, for Potential Hydrotreated Vegetable Oil (HVO) Applications
13	LS-T-SDO16-B	Victorias City	Stream Guardians: Aquatic Macroinvertebrates as Bioindicators of Stream Health in Gawahon Eco Park, Victorias City
14	LS-T-SDO17-A	Tanjay City	Comparative Evaluation Of The Larvicidal Efficacy Of Aqueous And Ethanolic Extracts Of Panyawan (Tinospora Crispa) And Paminta (Piper Nigrum), Individually And In Combination, At Varying Concentrations Against Mosquito Larvae
15	LS-T-SDO18-A	Dumaguete City	Phytochemical Characterization, HPLC Profiling, and In Vitro Cytotoxic and Antimitotic Evaluation of Unripe Saba Banana (Musa balbisiana × Musa acuminata) Peel Extract Against Brine Shrimp and Sea Urchin Embryonic Development, with In Silico Assessment of

			Potential DR5-Mediated Pro-Apoptotic Interactions and ADME Analysis
16	LS-T-SDO22-B	Cadiz City	Assessing the Efficacy of Magna Daphnia (Daphnia magna) as a Bioindicator for Aquatic Toxicity

2. TUKLAS- PHYSICAL SCIENCE

A. INDIVIDUAL CATEGORY

	ENTRY CODE	SCHOOLS DIVISION OFFICE	RESEARCH TITLE
1	PS-I-SDO1-A	Himamaylan City	Biogenic Silica-Doped Hydroxyapatite Scaffolds Derived from Upcycled Oryza sativa Husks and Crassostrea Shells via Porogen Salt-Leaching to Accelerate In Vitro Bioactive Apatite Mineralization and Structural Stability for Bone Regeneration
2	PS-I-SDO2-A	La Carlota City	Synergy vs Singularity: BOD Reduction and Elovich Kinetic Mechanisms of Co-Pyrolyzed Lignocellulosic Multi-Modal Pore Network
3	PS-I-SDO4-A	Siquijor	Synthesis and Microplastic Capture Efficiency of Co-Precipitated Iron Oxide-Sargassum Biochar Nanocomposite Beads for Wastewater Remediation
4	PS-I-SDO5-A	Kabankalan City	Quantitative Assessment of Simulated Human-Generated Microplastic Fragmentation Via DIY Mechanical Abrasion: Linking Abrasion Load, Microplastic Release, and Aquatic Toxicity in Common Polymers

5	PS-I-SDO5-B	Kabankalan City	Nature's Cool Cover: Evaluating the Physical and Thermal Insulation Properties of Nipa (Nypa fruticans) Shingles, Rice (Oryza sativa) Hull, and Coconut (Cocos nucifera) Fibers for Roofing Applications
6	PS-I-SDO7-A	Negros Occidental	CYCLOTRAP: A Citric-Acid Crosslinked β-Cyclodextrin-Functionalized Cellulose Nanofiber and Nanofibrillated β-Chitin Composite Cryogel for the Removal of a Tire and Road Wear Associated Pollutant from Simulated Stormwater
7	PS-I-SDO7-B	Negros Occidental	Development and Evaluation of Mixed Calamansi (Citrus x microcarpa), Mango (Mangifera indica), and Pineapple (Ananas comosus) Peel-Derived Biochar for Microplastic Removal
8	PS-I-SDO10-A	Negros Oriental	Photosensitizing Potential of Mansanitas (Muntingia calabura L.) Fruit Peel Ethanolic Extract in TiO2-Based Dye-Sensitized Solar Cells
9	PS-I-SDO10-B	Negros Oriental	AbsorbaPlume: Absorption Capacity, Reusability, and Physicochemical, Mechanical, and In Silico Evaluation of Chicken (Gallus gallus domesticus) Feather-Derived Sorbent for Gasoline and Crude Oil Spill Remediation
10	PS-I-SDO13-A	Talisay City	Green Synthesis of Iron Oxide (Fe_3O_4) Nanoparticles via Coconut (Cocos nucifera) Leaves, N,S-Co-Doped Carbon Quantum Dots, and Sugarcane (Saccharum officinarum) Bagasse Biochar for pH and Sulfur Remediation of Volcanic Ash-Contaminated Soil

11	PS-I-SDO13-B	Talisay City	NanoClean: Synthesis, Characterization, and Evaluation of Sugarcane Bagasse (Saccharum officinarum) Cellulose Functionalized with Rice Husk (Oryza sativa)-Derived Zinc Oxide Nanoparticles for the Removal and Photodegradation of Polyethylene Microplastics in Water: An Approach to Circular Economy Integration
12	PS-I-SDO16-A	Victorias City	Development and Kinetic Analysis of Biochar-Titanium Dioxode (TiO2) Composite Coatings for Formaldehyde Removal under Simulated Sunlight and Dark Conditions
13	PS-I-SDO16-B	Victorias City	Fabrication and In-Silico Evaluation of Magnetite-Infused Cellulose Hydrogel Beads Derived from Bamboo (Bambusa blumeana) Culm for Heavy Metal Adsorption
14	PS-I-SDO18-A	Dumaguete City	Adsorption Performance, Kinetics, and Fourier Transform Infrared Spectroscopic Characterization of Saba Banana (Musa acuminata × balbisiana) Pseudostem Derived Biosorbent for Cadmium Removal from Aqueous Solutions
15	PS-I-SDO19-A	Sipalay City	Development and Physical Characterization of Oyster Mushroom (Pleurotus ostreatus) Mycelium Composite Sheets from Rice Straw, Sawdust, and Coconut Coir

B. TEAM CATEGORY

	ENTRY CODE	SCHOOLS DIVISION OFFICE	RESEARCH TITLE

1	PS-T-SDO1-A	Himamaylan City	Microplastic Characterization and Quantification in the Marine Waters of Southern Negros Occidental, Philippines, and Their Photocatalytic Degradation Using a Rice Straw (Oryza sativa)-Derived Titanium Dioxide–Biochar Composite
2	PS-T-SDO3-A	Silay City	ECO-BOND: Plant-Based Cream and Bioplastic Bandage for Barnacle Removal from Bungalon (Avicennia marina)
3	PS-T-SDO4-A	Siquijor	Reactive Oxide–Biochar Coating for Photocatalytic Remediation and Self-Cleaning of Concrete Surfaces
4	PS-T-SDO7-A	Negros Occidental	SOLARA: Engineering Hybrid Nanocomposite Coatings through the Circular Valorization of Saccharum officinarum Bagasse-Derived Carbon Quantum Dots and Oryza sativa Husk-Derived Silica Nanoparticles for Luminescent Down-Shifting, Anti-Reflective Photon Management, and Chemical and Thermal Stability in Monocrystalline Photovoltaic Systems
5	PS-T-SDO8-A	Bago City	Bioconversion of Pineapple (Ananas comosus) Peel Waste by Saccharomyces cerevisiae for Sustainable Biopesticide Production
6	PS-T-SDO10-B	Negros Oriental	GT-BIOWRAP: In Silico Molecular Docking and Formulation Optimization of Gumamela (Hibiscus rosa-sinensis) – Turmeric (Curcuma longa) Wrapping Films
7	PS-T-SDO13-A	Talisay City	PHYTING λ: Harnessing Taro (Colocasia esculenta) Leaf-Derived Chlorophyll and Santol (Sandoricum koetjape) Leaf-Derived Flavonoids for the In Vitro Photodegradation of Lambda-Cyhalothrin in Water Through Extract-Ratio

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			Optimization and Degradation Kinetic Analysis
8	PS-T-SDO13-B	Talisay City	Evaluation of Carbonized Rice Husk (Oryza sativa)-Agar as Soil Moisture, Nutrient Retention and Biodegradability
9	PS-T-SDO16-A	Victorias City	Development and Characterization of Bacterial Cellulose-Reinforced Chitosan-Anthocyanin pH-Sensitive Biofilms from Blue Swimming Crab (Portunus pelagicus) Shells and Butterfly Pea (Clitoria ternatea)
10	PS-T-SDO16-B	Victorias City	Polyethylene Terephthalate (PET) Bottles with Cogon Grass (Imperata cylindrica) Ash Pavement Blocks: Development and Evaluation in Terms of Compressive Strength and Water Absorption
11	PS-T-SDO17-A	Tanjay City	SIGUROHAN: Development of an ESP32-Based Metal Detection and Real-Time Web Monitoring System with Guard-Confirmed Alerts and Audible Alarm Escalation for School Entry Security
12	PS-T-SDO18-A	Dumaguete City	Green Synthesis, Characterization, and In Silico Biocompatibility Assessment of Sugarcane (Saccharum officinarum) Bagasse Carbon Dots through Multi-Target Molecular Docking against Human Proteins and ADMET Analysis for Potential Biomedical Applications
13	PS-T-SDO18-B	Dumaguete City	Synthesis of Cornstarch-Based Composite Bioplastic Reinforced with Gmelina arborea Leaf Extract and Calabash (Crescentia cujete) Pulp Extract

14	PS-T-SDO19-A	Sipalay City	SmartBox RGB Nanosensor: Fluorescence Sensing Evaluation and Characterization of Coconut Husk (Cocos nucifera)-Derived N-Carbon Quantum Dots For Hemoglobin Detection toward Early Anemia Screening
15	PS-T-SDO22-B	Cadiz City	Effects of Electric Field Stimulation Through Coils on the Germination and Early Growth of Okra (Abelmoschus esculentus (L.) Moench) Seeds in a Hydroponic System

3. TUKLAS – ROBOTICS AND INTELIGENT MACHINE (RIM)

A. INDIVIDUAL CATEGORY

	SDO CODE	SCHOOLS DIVISION OFFICE	RESEARCH TITLE
1	RIM-I-SDO1-A	Himamaylan City	BATÓBÁTO (Bio-Microfluidic AI Technology for Optical Biomarker Assessment and Targeted On-Site Screening Tool): A Low-Cost, Point-of-Care Microfluidic Paper-Based Analytical Device with Integrated Optical Sensing and Smartphone-Enabled Interface for Urine Albumin-to Creatinine Triage in Chronic Kidney Disease Risk Screening
2	RIM-I-SDO4-A	Siquijor	OPTIVISION: An Integrated Deep Learning-Based System for Glaucoma Prescreening Using Fundus Imaging and Patient Questionnaire Assessment
3	RIM-I-SDO6-A	Bais City	WataReuse: A Smart Water Dispenser That Trades Water for PET (Polyethylene Terephthalate) and PP (Polypropylene) Plastic Bottles Using AI-Based Object Recognition
4	RIM-I-SDO7-A	Negros Occidental	AProject Aeromap: An Autonomously Adapting AI UAV Sensor Platform for Real-

			Time Air Quality Monitoring and 3D Spatial Mapping
5	RIM-I-SDO7-B	Negros Occidental	AEGIS (After Earthquake Grounded Inspection System): An Automated Structural Integrity Evaluation Robot Through Vibration-Based Analysis
6	RIM-I-SDO8-A	Bago City	Project ELI (Environmental Litter Interceptor): Engineering Amphibious RObot for INtelligent Waste Interception Across Mixed-Terrain Environments
7	RIM-I-SDO10-A	Negros Oriental	NEURO-MOTION: Multimodal Quantification of Cognitive WOrkload for Early Driver Fatigue Detection
8	RIM-I-SDO10-B	Negros Oriental	Ride Before Risk: A NodeMCU-Based Motorcycle Safety System with Helmet-Controlled Ignition, Alcohol Detection, Tilt Sensor, and Fingerprint Authentication
9	RIM-I-SDO13-A	Talisay City	O'WHALE: Developement of a Sensor-Assisted Floating Device for Oil Spill Detection and Collection USing Hydrophobic Polypropylene Absorbent Pads
10	RIM-I-SDO14-A	San Carlos City	Intelligent Waste Segregation System: Integration of Convolutional Neural Netwrok (CNN)-Based Waste Recognition, Automated Robotic Sorting, and Real-Time Audiovisual Feedback
11	RIM-I-SDO16-A	Victorias City	THALASA: A Technological Hybrid for AI-Assisted LoRa Based Aquaculture Surveillance and Automation
12	RIM-I-SDO18-A	Dumaguete City	Project SASAGIP: A Solar-Charged, AI-assisted, Autonomous Search, Assessment, and Geospatial Intelligence Platform with Radar-based Vital Sign Sensing for Disaster Reconnaissance
13	RIM-I-SDO21-B	Escalante City	RIPESCAN: A Low-cost, portable ESP32-Based Multispectral Device for Non-Destructive Ripeness Classification of Tomato and Banana

14	RIM-I-SDO22-A	Cadiz City	Skin Cancer Risk Tracket (SCRT): An AI-integrated Near Infrared Intelligent System for Preliminary Skin Lesion RIsk Assessment
15	RIM-I-SDO22-B	Cadiz City	WATT-WAIS: An Arduino-Based Power Usage Monitoring Application for Moderate-Income Homes

B. TEAM CATEGORY

	ENTRY CODE	SCHOOLS DIVISION OFFICE	RESEARCH TITLE
1	RIM-T-SDO1-A	Himamaylan City	PANGUMA (Precision Agricultural Network for Grading, Utility, Monitoring, and Automation): A Solar-Powered, Wireless IoT System for Automated Precision Feeding, Egg Sorting, and Web Based Telemetry in Small-to-Medium-Scale Farming
2	RIM-T-SDO2-B	La Carlota City	BUBOD: Bangus-Based Utility Bot for Optimized Distribution
3	RIM-T-SDO3-B	Silay City	TRIGEN: A Dual Powered Tri-Generation Desalination System for the Simultaneous Production of Clean Water, Unrefined Salt Residue and Supplementary Electricity
4	RIM-T-SDO4-A	Siquijor	Project E-VASC: An Offline Kiosk for Ischemic Heart Disease–Focused Cardiovascular Risk Screening Using Simultaneous Bilateral Brachial Oscillometric Blood Pressure Measurement and Peripheral Photoplethysmography
5	RIM-T-SDO7-A	Negros Occidental	SAGBOAT: A Vortex-Induced Smart Autonomous Garbage Collecting Boat for Efficient Collection of Floating Solid Waste in Urban Canals
6	RIM-T-SDO7-B	Negros Occidental	AWARE (Autonomous Warning Alert Risk Evaluation): An Automated Rover for Preliminary Environmental Hazard Detection and Risk Assessment

7	RIM-T-SDO8-A	Bago City	MARIANA MISSION (Marine Assessment and Robotic Intervention through Agricultural Natural Absorbents): An Autonomous Robotic System for Aquatic Phytoplankton Monitoring and Sugarcane Bagasse-Based Oil Spill Mitigation
8	RIM-T-SDO10-A	Negros Oriental	BIOSYNC: A Portable, Mobile-Accessible, Multimodal Biosensing Device for AI-Assisted Cardiac Abnormality Classification, Peripheral Oxygenation Assessment, and Forearm Neuromuscular Signal Analysis
9	RIM-T-SDO10-B	Negros Oriental	RETINEXA: A Portable Diabetic Retinopathy Screening-Support Prototype
10	RIM-T-SDO13-A	Talisay City	DERMIS: An AI-Integrated Wound Assessment System Using RGB Imaging and CNN-Based Feature Analysis for Wound Classification and Severity-Based Infection and Healing Evaluation with Professional Point-of-Care Referral Pathway.
11	RIM-T-SDO14-A	San Carlos City	FERAS: Fire Escalation Risk Assessment System - An integrated vision-based machine learning framework for indoor fire detection, environmental assessment, and risk prediction.
12	RIM-T-SDO16-A	Victorias City	AGRIBOT: A Semi-Autonomous Precision Agriculture Robot
13	RIM-T-SDO17-B	Tanjay City	BAGTIK (Bell Alarm Gadget for Timely Information and Guidance): Development of Intelligent Water Level Sensor for River Flood Early Warning System
14	RIM-T-SDO18-A	Dumaguete City	SOLSTRATA: A GPS-Integrated Multi-Parameter Soil Assessment System with an AI Agricultural Chatbot for Soil Based Insights
15	RIM-T-SDO22-A	Cadiz City	BALSA: Bio-Aquatic Litter Collection and Riverine Sanitation Integrated with Activated Carbon for Microplastic Filtration

4. TUKLAS – MATHEMATICS AND COMPUTATIONAL SCIENCE (MCS)

A. INDIVIDUAL CATEGORY

	SDO CODE	SCHOOLS DIVISION OFFICE	RESEARCH TITLE
1	MCS-I-SDO1-A	Himamaylan City	Mathematical Modeling, Optimization, and Sensitivity Analysis of Transesterification Parameters for Enhanced Biodiesel Production from Tuloy (Sardinella gibbosa) Waste Oil
2	MCS-I-SDO4-A	Siquijor	NOVACELL: Mathematical Modeling of Protein Corona Dynamics, pH-Responsive Polymer-Based Nanoparticles, and Tumor Transport for Drug Delivery in Pancreatic Adenocarcinoma
3	MCS-I-SDO4-B	Siquijor	Project TRACE Siquijor: Travel Expenditure Analysis through Computational Estimation in Siquijor Island
4	MCS-I-SDO7-A	Negros Occidental	Phage-Entropy: A Hybrid White-Gray Box Ensemble Framework For Extrapolating Phage-Cancer Interaction Dynamics Of Engineered T4 Bacteriophage Nanotherapeutic-Inspired Particles Via Entropy And Geometric Spatial Network Analysis
5	MCS-I-SDO7-B	Negros Occidental	Beyond Tipping Points: A Nonlinear Network-Catastrophe Model of Earth's Tipping Web and Cascading Climate Collapse Dynamics
6	MCS-I-SDO10-A	Negros Oriental	Development of Sustainable Paper Egg Trays From Recycled Paper Waste and Pineapple Fiber (Ananas comosus) Using Cornstarch as Binder: Material Efficiency Ratio (MER) – Based Comparison of Three Formulation
7	MCS-I-SDO10-B	Negros Oriental	Heat Performance Comparative Mathematical Analysis of the Heating

			Performance of Pig-Manure and Cow-Manure Charcoal
8	MCS-I-SDO11-A	Bacolod City	Urban Sprawl Mapping Using Land Use and Land Cover (LULC) Time-Series in Bacolod City via Remote Sensing
9	MCS-I-SDO11-B	Bacolod City	PROJECT INTELLECT-INT: Development and Computational Validation of a Rule-Based Algorithm for Diagnosing Integer Operation Errors
10	MCS-I-SDO14-A	San Carlos City	VISIONCO-AI: CNN Framework for Predicting Lung Cancer Progression with 3D Simulation Utilizing CT Scan Images
11	MCS-I-SDO15-A	Bayawan City	Forecasting and Spatial Mapping of Heat Index in the Philippines Using SARIMAX Model with the Oceanic Niño Index (ONI) as an Exogenous Variable from 1990–2024
12	MCS-I-SDO16-A	Victorias City	MATHEMATICAL MODELING AND IN SILICO ANALYSIS OF MUTATION SPECTRUM AND HOTSPOT DISTRIBUTION IN BRCA1, BRCA2, AND TP53 ACROSS MULTI-COHORT BREAST CANCER DATASETS
13	MCS-I-SDO17-A	Tanjay City	A GIS-Based Spatiotemporal Model of Historical Urban and Industrial Expansion for Future Development Prioritization in Tanjay City, Negros Oriental.
14	MCS-I-SDO18-A	Dumaguete City	Phlux: Nardl–Egarch Framework For The Short-Run And Long-Run Relationship Of Exchange Rate Volatility, Inflation Rate, And Oil Prices With Gross Domestic Product In The Philippines For Usd-Php, Gbp-Php, And Eur-Php
15	MCS-I-SDO18-B	Dumaguete City	Project CYPERMORT: Mathematical Modeling and Computational Analysis of Green Peach Aphid (Myzus persicae) Mortality in Response to Varying Volumes of Nutgrass (Cyperus rotundus) Tuber Extract

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B. TEAM CATEGORY

	SDO CODE	SCHOOLS DIVISION OFFICE	RESEARCH TITLE
1	MCS-T-SDO1-A	Himamaylan City	TALABA (Targeted Antimicrobial Leads from Aquatic Bivalve Agents): Computational Bioprospecting of Magallana bilineata Bioactives via Multi-Target Virtual Screening, ADMET-QSAR Modeling, and Molecular Docking Against Rifampicin-Resistant Mycobacterium tuberculosis (RR-Mtb)
2	MCS-T-SDO2-A	La Carlota City	Mix, Lift, and Model: Quadratic Modeling of Pechay Growth Under Varying Growing Media Ratios at Different Pot Elevations
3	MCS-T-SDO4-A	Siquijor	SALIGAN: Storm Surge Accessibility Level Index through GIS Analysis and Navigation
4	MCS-T-SDO4-B	Siquijor	Maria Accident Risks Investigation and Causes Analysis of Road and Environmental Safety Measures (MARIA CARES): A Statistical Analysis and Trend-Based Projection of Vehicular Accident Risks, Causes, Patterns, and Safety Measures in Maria, Siquijor (2020–2025)
5	MCS-T-SDO7-A	Negros Occidental	Crab-Chain: A Cryptographically Signed, Tamper-Evident Fisheries Reporting And Audit System For Marine- Mammal Bycatch Estimation: Nested Monte Carlo: Analysis Of Horvitz-Thompson, Report-Assisted Difference, Generalized Regression Greg), And Gamma-Poisson Bayesian Estimators, Including Estimator Failure Modes And The False-Positive Tipping Frontier, In Synthetic Lue Swimming Crab (Portunus Pelagicus) Fisheries Calibrated To E.B. Magalona,

			Bago City, And Manapla, With Real-World Field Usability Testing
6	MCS-T-SDO7-B	Negros Occidental	Moisture-to-Decay: A Linear Regression Model Linking Moisture Reduction to Fruit and Vegetable Waste Decomposition
7	MCS-T-SDO11-A	Bacolod City	Population Density Estimates and GIS Inventory of the Philippine Pied Fantail (Rhipidura nigritorquis) in Selected Urban Green Spaces of Barangay Handumanan, Bacolod City, Philippines via Distance Sampling and Remote Sensing Techniques
8	MCS-T-SDO11-B	Bacolod City	Iso-Plus: A Software-Based Adaptive Learning System For Strengthening Algebraic Problem-Solving Skills Through Isomorphic Equations
9	MCS-T-SDO16-A	Victorias City	Mapaasenso: Mapping Future Building-Site Suitability For Sustainable Urban Development Using A GIS-Based Weighted Mathematical Model
10	MCS-T-SDO17-A	Tanjay City	Smartwatt: Development Of A Python-Based Energy Scheduling And Optimization Model With Integrated Artificial Intelligence For Energy-Efficient School Electricity Management
11	MCS-T-SDO18-A	Dumaguete City	Project Qforvikor: Quantifying Flood Resilience In Highly Urbanized And Component Cities In The Philippines Using A Hybridized Fuzzy-Analytical Hierarchy Process And Fuzzy-Vikor Multi-Criteria Decision-Making Model

12	MCS-T-SDO20-A	Canlaon City	Predicting Brown Sugar Farmgate Prices through Average Humidity, Rainfall and Temperature, Quarterly Sugarcane Yield, and Red-Stripe Soft Scale Insect Infestation
13	MCS-T-SDO21-A	Escalante City	Student Productivity Index (Spi): Development And Relationship With Mathematics Performance Among Senior High School Students
14	MCS-T-SDO22-A	Cadiz City	Graph-Theoretic and Time-Based Optimization of One-Way Traffic Schemes for School Dismissal Zones: A Computational Approach
15	MCS-T-SDO22-B	Cadiz City	Computational Optimization of Flood-Barrier Geometry for Reducing Flood Depth and Flow Velocity in a Simulated Residential Area

5. SCIENCE TECHNOLOGY, ENGINEERING AND MATHEMATICS INNOVATION - EXPO

A. INDIVIDUAL CATEGORY

	ENTRY CODE	SCHOOLS DIVISION OFFICE	Research Title
1	STEMIE-I-SDO01-A	Himamaylan City	VOLTANIKO: Waste-to-Wattage Bio-Electrochemical Energy Harvesting from Cocos nucifera for Off-Grid Alternative and Emergency Lighting
2	STEMIE-I-SDO02-A	La Carlota City	SPACE-V: Development and Evaluation of a Secured Photovoltaic Automated Charging Equipment Vendo
3	STEMIE-I-SDO03-A	Silay City	Biomass Logic for Automated Zenith Energy (BLAZE): Automated Biomass-Powered Stove for Sustainable Cooking

4	STEMIE-I-SDO04-A	Siquijor	LIFT: Life-saving Integrated Field Transport
5	STEMIE-I-SDO04-B	Siquijor	THERMAFIBER: Development of Recycled Waste-Paper Composite Panels Reinforced with Natural Fibers for Thermal Insulation
6	STEMIE-I-SDO05-A	Kabankalan City	Solar Powered Multi-Factor GSM Door Lock System with OTP Authentication, Intrusion Detection, and Real-Time SMS Alerts
7	STEMIE-I-SDO05-B	Kabankalan City	From Agricultural Waste to Renewable Energy: Developing Sustainable Biofuel Briquettes from Discarded Cassava and Sugarcane Residues
8	STEMIE-I-SDO06-A	Bais City	SENTINEL-NEGROS: Development of an Offline Satellite-Derived and Hydrometeorological Information System with AI Assistance for Informed Environmental Management Strategies
9	STEMIE-I-SDO07-A	Negros Occidental	WAIS: Water Analysis and Intelligent Sensing—An Autonomous AI-Powered Water Monitoring System
10	STEMIE-I-SDO07-B	Negros Occidental	MYCAIR: Rice Hull-Derived Activated Carbon and Oyster Mushroom Mycelium for Dual-Stage Indoor Air Pollutant Capture
11	STEMIE-I-SDO10-A	Negros Oriental	Project BURN: PILI-FLAME Stove—Pili Integrated Low-Emission, Efficient Flame and Alternative-Fuel Modular Energy
12	STEMIE-I-SDO10-B	Negros Oriental	Buoy-Tent: Designing a Convertible Shelter for Immediate Flood Disaster Relief

13	STEMIE-I-SDO11-B	Bacolod City	Development and Validation of a Time-Series Forecasting Model for Predicting Peak Student Arrival Periods Using School ID Scan Data
14	STEMIE-I-SDO13-A	Talisay City	PENTAQUA: Portable Water Quality Monitoring Instrument for Electrochemical Detection of Pb and Cd Using a DIY Potentiostat with pH, Turbidity and TDS Sensors
15	STEMIE-I-SDO17-A	Tanjay City	Development of a Smart ESP32 Voice-Controlled Electric Fan Using Existing Mobile Applications for Elderly Individuals
16	STEMIE-I-SDO18-A	Dumaguete City	Project PAGLUWAS: Predictive AI-assisted Guidance and Localization for Unified Warning and Adaptive Safety
17	STEMIE-I-SDO21-A	Escalante City	SUSTAINABLUE: An Integrated Platform for Water-Related Complaints
18	STEMIE-I-SDO22-A	Cadiz City	RETRIEVE: Recover Easily Through Reporting Items Enabling Visibility for Everyone
19	STEMIE-I-SDO22-B	Cadiz City	Development and Evaluation of a Sargassum-Based Bio-Composite Nano-Coating for Tomato Preservation

B. TEAM CATEGORY

	ENTRY CODE	SCHOOLS DIVISION OFFICE	RESEARCH TITLE
1	STEMIE-T-SDO01-A	Himamaylan City	ALAGA: Automated Logging and Analysis for Guidance and Assessment Using DSBand and Machine Learning

			for Early Seizure Detection in Dravet Syndrome
2	STEMIE-T-SDO02-A	La Carlota City	EARTHSENSE: An AI-Based Localized Seismic Vibration Detection and Earthquake Alert Prototype
3	STEMIE-T-SDO03-A	Silay City	TRIAGE: Tracking, Reporting, Immediate Action, and Geo-Response Engine—An Emergency Response Mobile Web Application
4	STEMIE-T-SDO03-B	Silay City	RoBIN: Solar-Powered Robotic Bin for Automated Multi-Stage Recycling and Rewards Verification
5	STEMIE-T-SDO04-A	Siquijor	B.R.A.C.E.: Bi-segmental Rehabilitation and Assistive Control Equipment
6	STEMIE-T-SDO04-B	Siquijor	ANIMA-WARN: Automated Edge-Computing System for Roadside Stray Animal Detection
7	STEMIE-T-SDO05-B	Kabankalan City	F-SAFE: Arduino-Based Multisensor Fruit Quality Screening System
8	STEMIE-T-SDO06-A	Bais City	QuakeSense: Offline Geospatial Visualization of Historical Seismicity and Quantum-Analogue Intensity Fields for Negros Trench

9	STEMIE-T-SDO07-A	Negros Occidental	Tap. Eat. Track: RFID-Based Payment and Real-Time Parental Monitoring System for School Canteens
10	STEMIE-T-SDO07-B	Negros Occidental	Fluorescent Extracts from Agricultural Waste for Edge-Embedded Luminescent Solar Concentrators
11	STEMIE-T-SDO10-A	Negros Oriental	AGRI-TRACE QR: QR-Based Agricultural Product Traceability and Consumer Information System
12	STEMIE-T-SDO10-B	Negros Oriental	COPRA: Coconut-Based Products for Responsible and Alternative Cleaning
13	STEMIE-T-SDO11-A	Bacolod City	Development and Validation of an Offline Campus Pedestrian Wayfinding Application for Parent Visitors Using Graph-Based Shortest-Path Algorithms
14	STEMIE-T-SDO13-A	Talisay City	PhyVolt: Self-Regulating Heliotrope-Inspired Solar Array with MPPT, Thermal Cooling and IoT Monitoring
15	STEMIE-T-SDO13-B	Talisay City	AMBIENT: Electrochemical Nanosensor Tool for Diuron Detection and Photocatalytic Degradation
16	STEMIE-T-SDO14-A	San Carlos City	IDentraSense: QR Code-Based Student Attendance and Emotion Monitoring System

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17	STEMIE-T-SDO15-A	Bayawan City	Development and Evaluation of a Smart Pill Organizer with LED Indicators and Mobile Medication-Reminder Application
18	STEMIE-T-SDO16-A	Victorias City	Smart Chitosan-Alginate Suture with Butterfly Pea Extract for Colorimetric Infection Sensing
19	STEMIE-T-SDO17-A	Tanjay City	VITALINK: Portable Multi-Parameter Vital Signs Monitoring with Digital Data Management and AI Health Assistance
20	STEMIE-T-SDO17-B	Tanjay City	Smart Cane: Assistive Navigation Device for the Visually Impaired
21	STEMIE-T-SDO18-A	Dumaguete City	Project RAFTSAFE: Rescue-Adaptable Floating Table with Smart Assessment, Food Storage and Emergency Vital Monitoring
22	STEMIE-T-SDO19-A	Sipalay City	SOLARIS: Calcium Chloride Atmospheric Water Harvester with Solar Thermal Regeneration
23	STEMIE-T-SDO20-A	Canlaon City	Experimental Innovation of Heat-Assisted Manure Drying Equipment for Odor and Gas Reduction
24	STEMIE-T-SDO20-B	Canlaon City	Alternative Fuel Charcoal Briquettes from Sugarcane Leaves and Okra Binder

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25	STEMIE-T-SDO21-A	Escalante City	PATHFINDER: App-Based Emergency Evacuation Route Mapper for Exit Accessibility and Reduced Navigation Time
26	STEMIE-T-SDO22-A	Cadiz City	Performance Evaluation of a Solar-Powered Fish Dryer for Sardinella tawilis
27	STEMIE-T-SDO22-B	Cadiz City	Cassava Stem Starch as Material for Producing Gelatin-Starch Bioplastic