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SOLUTIONS PVT LTD

Microsoft NET

EMBEDDED SYSTEMS

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Java

BIG DATA & INTERNET of THINGS

php

- RESEARCH & DEVELOPMENT PROGRAM(RDP)
- FINAL YEAR ACADEMIC PROJECT(FAP) IN SOFTWARE AND EMBEDDED TECHNOLOGIES
- APPLICATION DEVELOPMENT PROGRAM(ADP)

PROJECT TITLES GUIDE
2018-2019

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SPIRO SOLUTIONS PVT LTD

T.NAGAR,CHENNAI-17

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312	ITCM02	Low complexity ZF receiver design for multi user GFDMA Uplink systems	2018
313	ITCM03	Successive Multipath Interference Cancellation for CP-Free OFDM Systems	2018
314	ITCM04	Repeated MCIK-OFDM with Enhanced Transmit Diversity Under CSI Uncertainty	2018
315	ITCM05	Sparse Channel Estimation for Massive MIMO-OFDM Systems over Time-varying Channels	2018
316	ITCM06	New PTS Schemes For PAPR Reduction Of OFDM Signals Without Side Information	2017
317	ITCM07	Electromagnetic Emission-aware Scheduling for the Uplink of Multi-cell OFDM Wireless Systems	2017
318	ITCM08	A two layer chaotic encryption scheme of secure image transmission for DCT precoded OFDM-VLC transmission	2017
319	ITCM09	Pilot Optimization For Estimation Of High-Mobility OFDM	2017

COGNITIVE RADIO NETWORK(CRN)

320	*ITCM10*	*Secure Communication in Spectrum-Sharing Massive MIMO Systems with Active Eavesdropping*	*2018*
321	*ITCM11*	*Joint Resource Allocation for OFDM-Based Cognitive Two-Way Multiple AF Relays Networks with Imperfect Spectrum Sensing*	*2018*
322	*ITCM12*	*QoS Aware Power Allocation and User Selection in Massive MIMO Underlay Cognitive Radio Networks*	*2018*
323	*ITCM13*	*Kernelized Generalized Likelihood Ratio Test for Spectrum Sensing in Cognitive Radio*	*2018*
324	*ITCM14*	*Cognitive MIMO Two-Way Relay Network: Joint Optimal Relay Selection and Spectrum Allocation*	*2018*
325	*ITCM15*	*Optimization or Alignment:secure primary transmission assisted by secondary networks*	*2018*
326	*ITCM16*	*Adaptive Spectrum Sharing for Half-duplex and Full-duplex Cognitive Radios: From the Energy Efficiency Perspective*	*2018*
327	*ITCM17*	*Spectrum Sensor Employing Continuous Pilot Tones in Cognitive Radio Systems*	*2017*
328	*ITCM18*	*Design of Cooperative Non-Orthogonal Multicast Cognitive Multiple Access for 5G Systems: User Scheduling and*	*2017*

329	ITCM19	*Secure Communication in OFDMA Based Cognitive Radio Networks: An Incentivized Secondary Network Coexistence*	*2017*

MUTIPLE INPUT MUTIPLE OUTPUT(MIMO)

330	ITCM20	*Pilot Contamination in Massive MIMO Induced by Timing and Frequency Errors*	*2018*
331	ITCM21	*A MAP-Based Layered Detection Algorithm and Outage Analysis over MIMO Channels*	*2018*
332	ITCM22	*Artificial Noise Aided Secure Cognitive Beamforming for Cooperative MISO-NOMA Using SWIPT*	*2018*
333	ITCM23	*Secure Beamforming for Untrusted MISO Cognitive Radio Networks*	*2018*
334	ITCM24	*Secure Beamformer Designs in MU-MIMO Systems with Multiuser Interference Exploitation*	*2018*
335	ITCM25	*New Beam forming Designs for Joint Spatial Division and Multiplexing in Large-Scale MISO Multi-user Systems*	*2017*
336	ITCM26	*Dynamic User Grouping and Joint Resource Allocation with Multi-Cell Cooperation for Uplink Virtual MIMO Systems*	*2017*
337	ITCM27	*Precoding for MIMO Channels in Cognitive Radio Networks With CSI Uncertainties and for Compound Capacity*	*2017*

338	ITCM28	Scalable Source Transmission with Unequal Frequency Reuse in MIMO Cellular Networks	2017
		OPTICAL COMMUNICATION	
339	ITCM29	An Investigation of Performance and Diversity Property of Optical Space Shift Keying Based FSO-MIMO System	2018
340	ITCM30	Performance Analysis of Full Duplex Modulating Retro-Reflector Free-Space Optical Communications over Single and Double Gamma-Gamma Fading Channels	2018
341	ITCM31	Optical MIMO-OFDM with Generalized LED Index Modulation	2017

RELAY-COMMUNICATION

342	ITCM32	Simultaneous Wireless Information and Power Transfer in Cellular Two-Way Relay Networks With Massive MIMO	2018
343	ITCM33	Secure Communications in NOMA System: Subcarrier Assignment and Power Allocation	2018
344	ITCM34	Energy Efficiency Maximization Precoding Design for SWIPT in MIMO Two-Way Relay Networks	2017
345	ITCM35	Joint Transceiver Design for Secure Downlink Communications over an Amplify-and-Forward MIMO Relay	2017

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		## SATELLITE COMMUNICATION	
346	*ITCM36*	*Joint Beamsforming for Secure Communication in Cognitive Satellite Terrestrial Networks*	*2018*
347	*ITCM37*	*Physical Layer Security of Interference-Limited Land Mobile Satellite Communication Systems*	*2018*
		## ACOUSTIC COMMUNICATION	
348	*ITCM38*	*Eigendecomposition -Based Partial FFT Demodulation for Differential OFDM in Underwater Acoustic Communications*	*2018*
349	*ITCM39*	*A Blind Side Information Detection method for Partial Transmitted Sequence Peak-to-Average Power Reduction Scheme in OFDM Underwater Acoustic Communication System*	*2018*
350	*ITCM40*	*A High Accuracy Solver for RTE in Underwater Optical Communication Path Loss Prediction*	*2018*

POWER ELECTRONICS

RENEWABLE ENERGY

S.NO	PROJECT CODE	PROJECT TITLE	YEAR
		SOLAR ENERGY	
351	ITPW01	An Enhanced Adaptive P&O MPPT for Fast and Efficient Tracking Under Varying Environmental Conditions	2018
352	ITPW02	Enhanced Bayesian Based MPPT Controller for PV Systems	2018
353	ITPW03	Operation of a Grid-Tied CMC Based on a SiC Forward SST Under Unbalanced PV Power Generation	2018
354	ITPW04	Real and reactive power control of solar grid-tie inverter under distorted grid conditions	2018
355	ITPW05	Photovoltaic Module Integrated Standalone Single Stage Switched Capacitor Inverter with Maximum Power Point Tracking	2017
356	ITPW06	MPPT in Dynamic Condition of Partially Shaded PV System by using WODE Technique	2017
357	ITPW07	Analysis of Modulation Strategy for the Minimization of Leakage Current in the PV Grid Connected Cascaded Multi-Level Inverter	2017

358	ITPW08	High-Performance Quasi-Z-Source Series Resonant DC-DC Converter for Photovoltaic Module Level Power Electronics Applications	2017
359	ITPW09	4-Switch Single-Stage Single-Phase Buck-Boost Inverter	2017
		. WINDENERGY	
360	ITPW10	Harmonic Stability and Resonance Analysis in Large PMSG-Based Wind Power Plants	2018
361	ITPW11	Control & Operation Of A Dc Grid Based Wind Power Generation System In A Micro grid	2017
362	ITPW12	Fault Ride Through and Grid Support Topology for the VSC-HVDC Connected Offshore Wind Farms	2017
363	ITPW13	A Resonant ZVZCS DC-DC Converter with Two Uneven Transformers for MVDC Collection System of Offshore Wind Farms	2017
		HYBRID SYSTEMS	
364	ITPW14	Soft-switched Non-Isolated High Step-up Three-port DC-DC converter for Hybrid Energy Systems	2018
365	ITPW15	Deadbeat Control for Single-Inductor Multiple-Input Multiple-Output DC-DC Converter	2018
366	ITPW16	Experimental Validation of a Three-Port Integrated Topology to Interface Electric Vehicles and Renewables	2018

		with the Electrical Grid	
367	*ITPW17*	*Novel Control Scheme for Interleaved Flyback Converter Based Solar PV Micro inverter to Achieve High Efficiency*	
368	*ITPW18*	*A Supervisory Power Management System for a Hybrid Micro grid with HESS*	
		ENERGY STORAGE SYSTEM	
369	*ITPW19*	*Charging and Discharging Strategies of Grid-Connected Super-Capacitor Energy Storage Systems*	*2018*
370	*ITPW20*	*High Step Up /Step Down Soft Switching Bidirectional DC-DC converter with coupled inductor and voltage matching control for energy storage systems*	*2017*
371	*ITPW21*	*Robust Nonlinear Controller Design for On-grid/Off-grid Wind Energy Battery-Storage System*	*2017*
372	*ITPW22*	*Fixed-Frequency PWM-Controlled Bidirectional Current-Fed Soft- Switching Series-Resonant Converter for Energy Storage Applications*	*2017*
		## POWER ELECTRONICS	
		AC TO DC CONVERSIONS	
373	*ITPW23*	*Three-Port-Converter-Based Single-Phase Bidirectional AC-DC Converter With Reduced Power Processing Stages and Improved Overall Efficiency*	*2018*

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374	ITPW24	Bidirectional Isolated AC-DC Converter for Electric Vehicles Multifunctional Chargers	2018
375	ITPW25	Single-Phase Multi-cell AC-DC Converter with Optimised Controller and Passive Filter Parameters	2017
376	ITPW26	A Family of Single-Phase Voltage- Doubler High-Power-Factor SEPIC Rectifiers Operating in DCM	2017

DC TO AC CONVERSION

377	ITPW27	Switched-Capacitor Based Single Source Cascaded H-bridge Multilevel Inverter Featuring Boosting Ability	2018
378	ITPW28	Programmable Electronic AC Load Based on a Hybrid Multi-Level Voltage Source Inverter	2018
379	ITPW29	One-Cycle Control for Electrolytic Capacitor-Less Second Harmonic Current Compensator	2017
380	ITPW30	Modulation Technique for Single-Phase Transformerless Photovoltaic Inverters with Reactive Power Capability	2017

MULTILEVEL INVERTER

381	ITPW31	Switched-Capacitor Based Single Source Cascaded H-bridge Multilevel Inverter Featuring Boosting Ability	2018
382	ITPW32	Development of a New Hybrid Multilevel Inverter Using Modified Carrier SPWM Switching Strategy	2017

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383	ITPW33	Carrier Based Stair Edge PWM (SEPWM) for Capacitor Balancing In Multilevel Converters with Floating Capacitors	2018
384	ITPW34	Single-Stage Switched-Capacitor Module (S3CM) Topology for Cascaded Multilevel Inverter	2018
385	ITPW35	A Five-Level Step-up Module for Multilevel Inverters: Topology, Modulation Strategy and Implementation	2018
386	ITPW36	A New Reduced-Component Hybrid Flying Capacitor Multi cell Converter	207
387	ITPW37	Quasi Cascaded H-Bridge Five-Level Boost Inverter	2017

DC TO DC CONVERSIONS

388	ITPW38	High Step-Up Non-Isolated ZVS/ZCS DC-DC Converter for Photovoltaic Thin-Film Module Applications	2018
389	ITPW39	Non-isolated High Step-up DC-DC Converter with Minimum Switch Voltage Stress	2018
390	ITPW40	Extendable Non-isolated High Gain DC-DC Converter Based on Active-Passive Inductor Cells	2018
391	ITPW41	A Novel Single-Input Dual-Output Three-Level DC-DC Converter	2018
392	ITPW42	A 5kW Isolated High Voltage Conversion Ratio Bidirectional CLTC Resonant DC-DC Converter with Gain Range and High Efficiency	2018

393	ITPW43	A Current-Fed Dual Active Bridge DC-Dc Converter Using Extended Duty Cycle Control and Magnetic-Integrated Inductors With Optimized Voltage Mismatching Control	2018
394	ITPW44	Stability and Small Signal Analysis of the Dual Series-Resonant DC-DC Converter	2018
395	ITPW45	Step-Down Impedance Control Network Resonant DC-DC Converter Utilizing an Enhanced Phase-Shift Control for Wide-Input-Range Operation	2018
396	ITPW46	Design and Analysis of a High Voltage-Gain Step-up Resonant DC-DC Converter for Transportation Applications	2017

AC TO AC (CYCLOCONVERTER)

397	ITPW47	Direct Single Phase AC-AC Converters Based On Series Impedance Networks	2018
398	ITPW48	Highly Efficient Single-phase Three-level Three-leg Converter Using SiC MOSFETs for ac-ac applications	2018
399	ITPW49	High-Frequency Isolated AC-DC-AC Interleaved Converter for Power Quality Applications	2018
400	ITPW50	Unified Non-Inverting and Inverting PWM AC-AC Converter with Versatile Modes of Operation	2017

AC & DC DRIVES APPLICATIONS

401	ITPW51	BLDC Motor Drive Based on Bridgeless Landsman PFC Converter with Single Sensor and Reduced Stress on Power Devices	2018
402	ITPW52	High Voltage Gain Interleaved Boost Converter with Neural Network Based MPPT Controller for Fuel Cell Based Electric Vehicle Applications	2018
403	ITPW53	Standalone Photovoltaic Water Pumping System Using Induction Motor Drive with Reduced Sensors	2018
404	ITPW54	Two-Speed Line Start Permanent Magnet Synchronous Motor with Dual Magnetic Polarity	2018
405	ITPW55	Single Stage Solar PV Fed Brushless DC Motor Driven Water Pump	2017
406	ITPW56	A Novel Method of Reducing Commutation Torque Ripple for Brushless DC Motor Based on Cuk Converter	2017
407	ITPW57	Bldc motor driven solar pv array –fed water pumping system employing zeta converter	2017

ELECTRICAL VEHICLE APPLICATION

408	ITPW58	Design and Simulation of Front End Converter for Fuel Cell based Electric Vehicle Applications	2017
409	ITPW59	A Novel Step-up Multi-Input DC-DC Converter for Hybrid Electric Vehicles Application	2017
410	ITPW60	Inductive Power Transfer for Massive Electric Bicycles Charging Based on Hybrid Topology Switching with A	2017

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		Single Inverter	
411	*ITPW61*	*An Electrolytic Capacitor-less Bi-directional EV Charger for V2G and V2H Applications*	

FUZZY CONTROL TECHNIQUES

412	*ITPW62*	*A Novel Control Algorithm for DC Motors supplied by PVs Using Fuzzy Cognitive Networks*	*2018*
413	*ITPW63*	*Artificial Neural Network for Control and Grid Integration of Residential Solar Photovoltaic Systems*	*2017*
414	*ITPW64*	*Design and Hardware Implementation of FLMPPT Control of PV Systems Based on GA and Small-Signal Analysis*	*2017*
415	*ITPW65*	*A Performance Investigation of a Four-Switch Three-Phase Inverter-Fed IM Drives at Low Speeds Using Fuzzy Logic and PI Controllers*	*2017*

MICROGRID APPLICATION

416	*ITPW66*	*Isolated AC – DC Converter Using Medium Frequency Transformer for Off-Shore Wind Turbine DC collecting grid*	*2017*
417	*ITPW67*	*Inverse Power factor Droop control for Decentralized power sharing in series connected micro converters based islanding Micro grids*	*2017*

POWER SYSTEMS

418	ITPS01	Design and Control of Micro-Grid fed by Renewable Energy Generating Sources	2018
419	ITPS02	Supply Voltage and Grid Current Harmonics Compensation Using Multi-port Interfacing Converter Integrated into Two-AC-Bus Grid	2018
420	ITPS03	A Novel DC Current Injection Suppression Method for Three-Phase Grid-Connected Inverter without the Isolation Transformer	2018
421	ITPS04	MLP Control Algorithm for Adaptable Dual- Mode Single-Stage Solar PV System Tied to Three-Phase Voltage-Weak Distribution Grid	2018
422	ITPS05	Replacing the Grid Interface Transformer in Wind Energy Conversion System With Solid- State Transformer	2018
423	ITPS06	Power Quality Improvement by using Shunt Hybrid Active Power Filter	2018
424	ITPS07	Dual-Buck AC–AC Converter with Inverting and Non- Inverting Operations	2018
425	ITPS08	PV-STATCOM: A New Smart Inverter for Voltage Control in Distribution Systems	2018
426	ITPS09	Model Predictive Control of Multilevel CHB STATCOM in Wind Farm Application Using Diophantine Equations	2018

427	ITPS10	**Cluster Voltage Regulation Strategy to Eliminate Negative Sequence Currents under Unbalanced Grid for Star-Connected Cascaded H-Bridge STATCOM**	2018
428	ITPS11	**Synchronization and Reactive Current Support of PMSG based Wind Farm during Severe Grid Fault**	2018
429	ITPS12	**A Fault Tolerant Control Strategy for the Delta-Connected Cascaded Converter**	2018
430	ITPS13	**A Single-Phase Buck Matrix Converter with High-Frequency Transformer Isolation and Reduced Switch Count**	2017
431	ITPS14	**A Unified Control and Power Management Scheme for PV-Battery- Based Hybrid Micro grids for Both Grid-Connected and Islanded Modes**	2017
432	ITPS15	**Improving Performance Of Cascaded H Bridge Based Interline Dynamic Voltage Restorer**	2017

VLSI

S.NO	PROJECT CODE	TITLE	YEAR
		ANALOG AMS(TANNER EDA)	
433	ITVL01	*A Low-Power High-Speed Comparator for Precise Applications*	*2018*
434	ITVL02	*A High Performance Gated Voltage Level Translator with Integrated Multiplexer*	*2018*
435	ITVL03	*Low-Power and Fast Full Adder by Exploring New XOR and XNOR Gates*	*2018*
436	ITVL04	*Design of Area-Efficient and Highly Reliable RHBD 10T Memory Cell for Aerospace Applications*	*2018*
437	ITVL05	*High speed and low power preset-able modified TSPC D flip-flop design and performance comparison with TSPC D flip-flop*	*2018*
438	ITVL06	*Low Power 4×4 Bit Multiplier Design using Dadda Algorithm and Optimized Full Adder*	*2018*
439	ITVL07	*Fractional- Order Differentiators and Integrators with Reduced Circuit Complexity*	*2018*
440	ITVL08	*Low Leakage Fully Half-Select-Free Robust SRAM Cells with BTI Reliability Analysis*	*2018*
441	ITVL09	*Performance Analysis of a Low-Power High-Speed Hybrid 1-bit Full Adder Circuit*	*2017*

442	ITVL10	12T Memory Cell for Aerospace Applications in Nano scale CMOS Technology	2017

DIGITAL SIGNAL PROCESSING

443	ITVL11	Area and Power Efficient VLSI Architecture of Distributed Arithmetic Based LMS Adaptive Filter	2018
444	ITVL12	An Efficient VLSI Architecture for Convolution Based DWT Using MAC	2018
445	ITVL13	VLSI design of low-cost and high-precision fixed-point reconfigurable FFT processors	2018
446	ITVL14	FIR Filter Design Based On FPGA	2018
447	ITVL15	Tap Delay-and-Accumulate Cost Aware Coefficient Synthesis Algorithm for the Design of Area-Power Efficient FIR Filters.	2018
448	ITVL16	A Low Error Energy-Efficient Fixed-Width Booth Multiplier with Sign-Digit-Based Conditional Probability Estimation	2018
449	ITVL17	An Approach to LUT Based Multiplier for Short Word Length DSP Systems	2018
450	ITVL18	EEG Signal Denoising based on Wavelet Transform using Xilinx System Generator.	2018
451	ITVL19	Hardware Implementation Of Polyphone-Decomposition-Based Wavelet Filters For	2017

		Power System Harmonics Estimation	
452	ITVL20	A pipelined area-efficient and high-speed reconfigurable processor for floating-point FFT/IFFT and DCT/IDCT computations	2017
453	ITVL21	Operating Frequency Improvement On FPGA Implementation Of A Pipeline Large-FFT Processor	2017
454	ITVL22	High Performance Integer DCT Architectures for HEVC	2017

FPGA AND DIGITAL DESIGN

455	ITVL23	Novel High speed Vedic Multiplier proposal incorporating Adder based on Quaternary Signed Digit number system	2018
456	ITVL24	FPGA Implementation of an Improved Watchdog Timer for Safety-critical Applications	2018
457	ITVL25	Low-Complexity VLSI Design of Large Integer Multipliers for Fully Homomorphic Encryption	2018
458	ITVL26	Unbiased Rounding for HUB Floating-point Addition	2018
459	ITVL27	A Low-Power Yet High-Speed Configurable Adder for Approximate Computing	2018
460	ITVL28	A Low-Power High-Speed Accuracy-Controllable Approximate Multiplier Design	2018
461	ITVL29	The Design and Implementation of Multi – Precision Floating Point Arithmetic Unit Based on FPGA	2018

462	ITVL30	Chip Design for Turbo Encoder Module for In-Vehicle System	2018
463	ITVL31	Extending 3-bit Burst Error-Correction Codes With Quadruple Adjacent Error Correction	2018
464	ITVL32	Low-power Implementation of Mitchell's Approximate Logarithmic Multiplication for Convolutional Neural Networks	2018
465	ITVL33	Efficient Modular Adders based on Reversible Circuits	2018
466	ITVL34	High Performance Division Circuit using Reversible Logic Gates	2018
467	ITVL35	Power Efficient Approximate Multipliers in LMS Adaptive Filters	2018
468	ITVL36	MAES: Modified Advanced Encryption Standard for Resource Constraint Environments	2018
469	ITVL37	Approximate Hybrid High Radix Encoding for Energy-Efficient Inexact Multipliers	2018
470	ITVL38	Design of Efficient Programmable Test-per-Scan Logic BIST Modules	2017
471	ITVL39	A Residue-to-Binary Converter for the Extended Four-Moduli Set $\{2n – 1, 2n + 1, 22n + 1, 22n+p\}$	2017
472	ITVL40	Improved 64-Bit Radix-16 Booth Multiplier Based On Partial Product Array Height Reduction	2017

473	ITVL41	**Design and Analysis of Multiplier Using Approximate 15-4 Compressor**	**2017**
474	ITVL42	**ROBA Multiplier: A Rounding-Based Approximate Multiplier For High-Speed Yet Energy-Efficient Digital Signal Processing**	**2017**
		# QCA TECHNOLOGY	
475	ITVL43	**Binary To Gray Code Converter Implementation Using QCA**	**2018**
476	ITVL44	**A Novel Design of Flip-Flop Circuits using Quantum Dot Cellular Automata (QCA)**	**2018**
477	ITVL45	**A Novel Five-input Multiple-function QCA Threshold Gate**	**2018**

TECHNOLOGY: MECHANICAL ENGINEERING

DOMAIN: THERMAL ENGINEERING

S. NO	PROJECT CODE	PROJECT TITLES	APPLICATION
478	ITMT01	Cyclone separator with blower	Industry
479	ITMT02	Fabrication of miniature boiler	Industry
480	ITMT03	Solar still using PCM materials	Houses
481	ITMT04	Fabrication of three in one air-conditioner	Houses
482	ITMT05	Automated outdoor mist control system	Environment
483	ITMT06	Fabrication and performance analysis of solar water heater using porous medium and agitator	Houses & industry
484	ITMT07	Solar aided portable vacuum desalination system	Houses
485	ITMT08	Solar powered water lifter using giant wheel method	Agriculture & industry
486	ITMT09	Multi stage Hydro electric power plant	Power Plant
487	ITMT10	Swing electricity power generation system	Power generation
488	ITMT11	Fabrication of shell and tube heat exchanger	Exchanger
489	ITMT12	Design and fabrication of mini wind mill	Power Generation

S. NO	PROJECT CODE	PROJECT TITLES	APPLICATION
490	ITMT13	Steam power plant	Power Generation
491	ITMT14	Design and fabrication of efficient solar air dryer	Houses
492	ITMT15	Sea wave Power generation System	Power Generation
493	ITMT16	High way wind power generation by Vertical Axis Wind turbine (VAWT)	Power Generation

DOMAIN: AUTOMOBILE ENGINEERING

S. NO	PROJECT CODE	PROJECT TITLES	APPLICATION
494	ITMA01	Fabrication of Treadmill Bicycle	Vehicle
495	ITMA02	Three Axis Modern Pneumatic Trailers	Vehicle
496	ITMA03	Automatic braking and bumper system for automobiles	Vehicle
497	ITMA04	Neodymium Magnetic Shock Absorber for automotive	Vehicle
498	ITMA05	Automatic Tyre Pressure Inflation System for automotive	Vehicle
499	ITMA06	Fabrication Of Solar Powered Wheel Chair For Disable Person	Human
500	ITMA07	Exhaust gas heat recovery for Power generation and Braking	Vehicle

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501	ITMA08	Kinetic Energy Recovery system in Bicycle	Vehicle
502	ITMA09	Design and Fabrication of chainless bicycle	Vehicle
503	ITMA10	Electrical power generation by speed breaker	Vehicle
504	ITMA11	Fabrication of Solar Powered battery cycle	Vehicle
505	ITMA12	Design and analysis of composite bumper	vehicle
506	ITMA13	Air-conditioning system by vehicle suspension	Vehicle
507	ITMA14	Aqua silencer	Power Generation
508	ITMA15	On Board Diagnostic Control For Automobile Engine	Engine Condition
509	ITMA16	Design and fabrication of double cradle bike frame structure	Vehicle
510	ITMA17	Gear box analysis	Vehicle
511	ITMA18	Tyre Inflation System	Vehicle

DOMAIN: FABRICATION AND MANUFACTURING

S. NO	PROJECT CODE	PROJECT TITLES	USES
512	ITMF01	Solar Tracking System In Manual Rice Trans Planter	Agriculture
513	ITMF02	Pedalling dress washing machine	Industry
514	ITMF03	Four Way Hacksaw	Industry

515	ITMF04	Pepper Separating Machine	Industry
516	ITMF05	Solar grass cutter with linear plates	Environment
517	ITMF06	Design & fabrication of Vertical and Horizontal axis wind mill for low end power generation	Industry
518	ITMF07	Glass Cleaning Robot Using Scissor Lift Mechanism	Industry
519	ITMF08	Sand Cleaner Robot Using Vibrating Mechanism	Industry
520	ITMF09	Multi Spindle drill Head	Industry
521	ITMF10	Automatic Vegetable cutting Machine	Hotel
522	ITMF11	Composite Material project	Industry
523	ITMF12	Fabrication of Mechanical Spider	Sewage
524	ITMF13	Fabrication of both cutting punching and grinding machine by electric power	Industry
525	ITMF14	Fabrication of Painting Machine using rack and Pinion Mechanism	Painting
526	ITMF15	Design and fabrication of cylindrical tapping machine	Industry
527	ITMF16	Design and fabrication of sea bin	Environment
528	ITMF17	Automatic double axis welding machine	Industry
529	ITMF18	Oil spill recovery system	Environment

DOMAIN: HYDRAULICS AND PNEUMATICS SYSTEM

S. NO	PROJECT CODE	PROJECT TITLES	APPLICATION
530	ITMH01	Compressed Air Vehicle	Vehicle
531	ITMH02	Automatic Load Carry Robot For Industries Using Pneumatic Scissor Lift Mechanism	Industry
532	ITMH03	Automatic Sensor Operated Pneumatic Braking System	Vehicle
533	ITMH04	Pneumatic mobile crane	Industry
534	ITMH05	Multi axis welding mechanism	Industry
535	ITMH06	Design and fabrication of pneumatic tricycle	Human
536	ITMH07	Zig zag pneumatic lift	Industry
537	ITMH08	Design and fabrication of both cutting punching and grinding machine by pneumatic power	Industry
538	ITMH09	Easy handled handicapped vehicle by pneumatic power	Disabled
539	ITMH10	Design and fabrication of pneumatic engine	Automobile
540	ITMH11	Pneumatic Injection moulding Machine	Industry
541	ITMH12	Compressed air production and driven Bicycle	Vehicle
542	ITMH13	Pneumatic Inbuilt Jack using Rack and Pinion	Vehicle
543	ITMH14	Pneumatic reciprocating water pumping machine	Vehicle

544	ITMH15	Pneumatic multi axis Material handling End Effectors	Industry
545	ITMH16	Design and Fabrication mobile crane using pneumatics	Industry

TECHNOLOGY: MECHANICAL ENGINEERING

DOMAIN: AUTOMATION AND MECHATRONICS

S. NO	PROJECT CODE	PROJECT TITLES	USES
546	ITMM01	Pick And Place Robot Using Conveyor Line Follower Mechanism	Industry
547	ITMM02	Fabrication of over speed indication and automated braking system for automotives	Vehicle
548	ITMM03	Vehicle ignition using face recognition system	Vehicle
549	ITMM04	Automatic work piece counting with belt conveyor	Industry
550	ITMM05	Automatic paint spraying robot using Scissor lift Mechanism	Industry
551	ITMM06	Automatic Brake Failure And Engine Overheating Alarm	Vehicle
552	ITMM07	Remote control wheel chair cum bed	Human
553	ITMM08	Automatic board cleaner	Seminar Hall
554	ITMM09	Poor Quality rejection using Conveyor automation	Industry

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555	ITMM10	Automatic water spraying machine	Agricultural
556	ITMM11	Automatic Pipe Crawling Robot for Inspection Purpose	Oil Industry
557	ITMM12	Drainage Cleaning Robot	Sewage
558	ITMM13	Hybrid powered electric bicycle	Agricultural
559	ITMM14	Robotic Arm for various Material Handling Purpose	Industry
560	ITMM15	Automatic garbage Separation system	Municipal
561	ITMM16	Automatic Solar panel tracking system	Power generation
562	ITMM17	Automatic guiding head lamp	Vehicle
563	ITMM18	Rough terrain vehicle using rocker bogie mechanism	Vehicle
564	ITMM19	Design and fabrication of smart toll gate	Municipal
565	ITMM20	Automatic solar panel cleaning module	Municipal

DOMAIN: AGRICULTURAL

S. NO	PROJECT CODE	PROJECT TITLES	APPLICATION
566	ITAG01	Design and Fabrication of Grass cutter for agricultural	Agriculture
567	ITAG02	Solar Agricultural water pumping system	Agriculture
568	ITAG03	Solar operated sprayer for agricultural purpose	Agriculture

569	ITAG04	Hydro pump for agricultural application	Agriculture
570	ITAG05	Fabrication of pedal power ram type water pumping machine	Irrigation
571	ITAG06	Manual operated seeding machine	Agricultural
572	ITAG07	Sugarcane bud chipper	Agricultural
573	ITAG08	Coconut tree climbing and cutting machine	Agricultural
574	ITAG09	Solar grass cutter with linear blades by using scotch yoke mechanism	Horticulture
575	ITAG10	Agricultural Farm Vehicle	Agricultural
576	ITAG11	Design and fabrication of crane type fertilizer and water sprayer	Agricultural
577	ITAG12	Design and fabrication of solar panel grass cutter	Agricultural

CIVIL

COCRETE

S.NO	PROJECT CODE	PROJECT TITLE	YEAR
578	ITC101	Experimental study on investigation of Foam concrete	2018
579	ITC102	Experimental study on investigation of polystyrene concrete	2018
580	ITC103	Experimental Study of neem seed husk ash in concrete	2018
581	ITC104	Behavior and strength of pervious concrete for structural applications	2018
582	ITC105	On study of mix design of self compacting concrete on M30 grade	2018
583	ITC106	A study on the manufacturing and properties of clay based lightweight aggregate	2018
584	ITC107	Experimental Study on behavior of steel fibre reinforced concrete with marble dust	2018

585	ITC108	Experimental study of flexural behavior Of plain cement concrete slab using glass fiber mesh	2018
586	ITC109	Experimental study on buckling of I-section and Crucification section in concrete	2018
587	ITC110	Experimental study of Glass Fibre Reinforced Concrete	2018

SOIL

S.NO	PROJECT CODE	PROJECT TITLE	YEAR
588	ITSOIL01	Study on Liquefaction of soil	2018
589	ITSOIL02	Soil Stabilization using waste fiber materials	2018
590	ITSOIL03	An Analytical study of the cone penetration test	2018
591	ITSOIL04	Soil stabilization using plastic waste	2018
592	ITSOIL05	Stabilization red soil using blast furnace slag	2018
593	ITSOIL06	Stabilization of soil using waste materials	2018
594	ITSOIL07	Static pile soil pile interaction in offshore pile groups	2018

595	ITSOIL08	Ground improvement techniques	2018
		## ENVIRONMENTAL	
S.NO	PROJECT CODE	PROJECT TITLE	2018
596	ITEVS01	Waste water treatment by electrocoagulation Method	2018
597	ITEVS02	Optimization and equilibrium modeling for renewable energy focus on waste water to energy application	2018
598	ITEVS03	Low energy& passive building economic of new technology	2018
599	ITEVS04	Desalination process by using Emblic and Mentha	2018
600	ITEVS05	Case study of pollution cause to river by it surrounding	2018
601	ITEVS06	Treatment of water pollution using aquatic weeds	2018
602	ITEVS07	Studies on natural fibrous materials as fixed aerated beds for domestic wastewater treatment	2018
603	ITEVS08	E-waste management in India	2018
604	ITEVS09	Experimental on removal of chromium from industrial waste water using chitosan	2018

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605	ITEVS10	Treatment of industrial effluents in a bio reactor	2018
606	ITEVS11	Concept of Futuristic Building	2018
607	ITEVS12	Case and effect of Marine pollutants	2018

		DESIGN AND ANALYSIS	2018
S.NO	PROJECT CODE	PROJECT TITLE	2018
608	ITDES01	Design of bridge deck slab	2018
609	ITDES02	Design and analysis Multi-storey Building with Shear wall	2018
610	ITDES03	Design and analysis of Zero energy Building	2018
611	ITDES04	Design and analysis of cooling tower	2018
612	ITDES05	Design and analysis of underground subway	2018
613	ITDES06	Design and analysis of pedestrian bridge	2018
614	ITDES07	Design and analysis of magnetic levitation	2018
615	ITDES08	Design and analysis of multipurpose building	2018
616	ITDES09	Design and analysis of shear wall building	2018
617	ITDES10	Design and analysis of grade separator	2018

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