

Research Works

Financial Year 2015-16, 2016-17, 2017-18 and 2018-2019

Dept	Financial Year	Research Subjects
CE	2015-2016	Performance analysis of geotextile reinforced foundation in Mirpur Soil and pavement
		Analyses of morphological variation of mangrove forests along the south-west coast of Bangladesh through satellite imagery
		Numerical study on hydrodynamic and morpho-dynamic behavior of the circular waterway of Dhaka City
		Development of a Numerical Model in Assessing Groundwater Vulnerability of the Ayla Affected Coastal Villages
		Development of a Potential Climate Hazard Map for the Barguna District using GIS and Remote Sensing
		Modeling of Arsenic mobilization in South Western aquifer soil and water using VISUAL MODELW
		Repair and Strengthity of RC Slender Colum with Advanced Material (CFRP, through experimental testing shape memory alloy, ECC, Stainless Steel)
		Developing CTM Based Macro Model For Dhaka City With Modified Link-Specific Parameters To Determine Actions Following An Incident That Changes The Roadway Environment And To Predict Human Behavior Under Different Traffic Situation
		Mechanical and Durability Properties Investigation for Developing Sustainable Green Concrete by using Recycled Materials
		Effectiveness of Jute Geotextiles in Flexible Pavement Construction
	2016-2017	Comparative study of fresh and hardened properties of concrete with recycled aggregate as a replacement of natural aggregate
Effect of watering and dewatering on shear strength of soil		

		varying percentage of fine particles and dry density
		Performance Analysis of Deep Foundation in Reclaimed Land
		Strong station behavior of FRP Confined brick aggregate concrete
		Compressive Bond Behaviour of Non Linear Metallic Elements in Concrete
CE	2017-2018	Exploratory Study on seismic Behavior of Concrete Pier Reinforced with Innovative Materials (FRP and High Strength Steel)
		Bond Behavior of steel in concrete and column construction
		RC Column Retrofitting with FRP
		Pullout test to investigate bonding behavior in RCC
		Comparative Study between Machine-crushed and Manually crushed Brick Aggregate.
		Properties of Recycling Aggregate of Construction Materials
		Analysis of FRP and stainless steel rebar to test suitability in bridge pier with real time earthquake simulation
		Effect of plastic aggregate (polypropylene) in concrete
		Analysis and design of protective structure against blast effect
		Analysis of semi-pervious concrete and way to improve it
		Behavior of structure Filled Tube column for eccentric load
		Light Emitting/ Reflecting Concrete
		Residual behavior and Strength of Reinforced concrete after Heat Episode
		Mechanical and Durability Properties of RAC (Recycled Aggregate Concrete) with Crumbed Rubber and Fiber
		Experimental study of concrete filled tube with GI wire
		Experimental study on behavior of RC, steel and fully enclosed composite column
		Full Scale Cyclic Testing and ANSYS Modeling of Smart Post-tensioned Steel Beam-Column Connection in a Controlled Rocking Steel Frame
Mechanical and Durability Properties of limonite and		

		volcanic ash based Concrete and Cement Mortar
		Numerical Modeling for Evaluating the Influence of Jetty Piles on Nearby Soil Deposit for Ship Vessel Impacts
		Small Scale Physical Modeling for stability analyses of an artificial river bank slope and its subsequent remediation
		Extensive laboratory tests on permeation grouting of sand to evaluate the time lag and investigate the various contributing soil parameters
		Constitutive Modeling of Sand
		Constitutive Modeling of Clay
		Recycling of reclaimed asphalt pavement (RAP) as hot mix asphalt (HMA) layer
		Subgrade stabilization with Fly ash
		Sub-base stabilization with Fly ash and Life cycle cost analysis of the pavement
		Development of Air-temperature heat island prediction model
		Development of floating wet land to treat urban water pollution
		Development of Land-use change prediction model
		Development of salinity into coastal aquifer using visual MODFLOW
CE	2018-2019	Shear Strength behavior of Silty soil with plastic and non-plastic fines
		Identification and remedial measures of problematic soils
		Analytical study on typical pavement distress in Bangladesh
		Increased mobility options along Darussalam-Kachukhet connecting road
		Assessment of sea level rise based on tide records along the coastal areas of Bangladesh
		Erosion and deposition assessment through satellite imagery along the coastlines of Bangladesh
		Development of automated water quality monitoring device
		Heavy Metal removal from lake water by Bio Engineering
		Disaster risk mapping of landslides in Hilly districts
		Rocking frame with replaceable tube

		Evaluation of the Simple Elastoplastic Constitutive Model Parameters of Dhaka Clay
		Physical modeling and numerical simulation of a slope near Osmany Hall at MIST
		Durable and thermal resistant geopolymer concrete
		Flexural strength of RC using recycle
		Behaviour and Strength of CFST Column with stainless steel
		Influence of chemical and physical properties of aggregate on fresh and hardened concrete for constructing infrastructure in Bangladesh
		Tixotropic Behaviour of Reconstituted Clay
		Small scale numerical and physical modeling for ground improvements in soft clay deposit
		Small scale numerical and physical modeling for ascertaining the behavior of river bank slopes
		Analysis of Moment Resisting Frame under blast loading
		Geotechnical Investigation of landslides in Rangamati Region, Chattogram
CSE	2015-2016	Exploring autistic students learning experiences with the ICT uses: a comparative study in autistic pre and primary schools (e.g. Proyash) in Dhaka City
	2016-2017	Intrusion detection in software defined networks: A machine learning approach
		Towards Developing a Cost-effective advanced Battlefield Command System in Reaching the Future Soldier Systems
	2018-2019	Anti-Missile Defense System
		Emotion and Posture recognition using Kinect (Motion) sensor
IoT device security & Privacy		
EECE	2015-2016	"System Design and Implementation of a Microcontroller Based Maximum Power Point Tracking Solar Charge Controller"
		"Design and Construction of GNSS/GSM based Aircraft Tracking System"
		"Design and Construction of Aircraft Heading Reference System" (AHRS)

		Extension of Existing Solar Home System In EECE Building Using PU System and Ret Screen.
	2016-2017	STE Networks with NDR
	2017-2018	Smart Street Light Control System
	2018-2019	Measurement and modeling of spectral occupancy
ME	2015-2016	Design and Development of CG (Center of Gravity) of Vehicles Measuring Device
		Design and Construction of a Weight and centre of Gravity Measuring Device for Heave Vehicle
		Critical Health analysis of Internal Combustion Engine by Vibration analysis
		'Calibration set up of Flow Nozzle'- Enhancement of existing experimental facility of air flow bench apparatus
	2016-2017	Smart class room design by integrating digital finger print base attendance register, automatic switch electricity, digital board and exam digital clock. (Level-3, Sec – B, Class Room NO-402, Tower-2)
		Computerized setup, design, development and performance analysis of rolling contact bearing
2018-2019	Performance analysis of bio diesel blends extracted from newly developed bio diesel processor	
AE	2015-2016	Drone Copter with Real Time Video Transmission for Recce Purpose
	2016-2017	Design and fabrication of Tgt aircraft
	2017-2018	Design and Fabrication of a Target Aircraft
	2018-2019	Study on Design and Development of a Surveillance Radar
		Study on Design and Development of a Radar Jammer
NAME	2015-2016	Highly Maneuverable under Water Vehicle on the Basis of Quad copter Aerodynamics (A Project by a student of NAME Dept)
	2017-2018	Condition assessment for structural integrity parameters of Inland Marine Pitted Plates of Bangladesh by studing the geometry of pit shape
		Development of a Torpedo Counter Measure System of Naval Ships on the Basis of sound illusion system
		Design and Construction frp boat in Bangladesh and comparison between design result with model test result

	2018-2019	Study on the effect of Hot and Cold Rolling on Micro-Hardness, Micro-Structure and Thermo – Electric Conductivity of Commercial High-Conductive Metallic Materials
		Study on the Electro-Mechanical, Magnetic and Corrosive Behavior of Solder-Doped Copper Dominated Alloys after Work Hardening and Thermal Treatment
EWC E	2015-2016	Assessment on Tannery Effluent Quality in Hazaribag area of Dhaka city and Designing an Effective effluent Management plan
	2016-2017	Water Quality Impact Assesment on Mirpur Lake in Cantonment Area
	2018-2019	Impact of Air Quality Degradation on health and economy due to traffic congestion in Dhaka city
		Integrated approach towards water logging of Dhaka city
		Fuel economy baseline of Bangladesh
ARCH H	2015-2016	Effect of dredging on the bed of river
NSE	2015-2016	Analysis of thermal hydraulics and neutronics simulation models for safety assessment of pressurized water reactors
	2016-2017	Design and development of integrated simulation models for nuclear safety analyses of pressurized water nuclear reactors.
	2017-2018	Design and development of integrated simulation models for nuclear safety analyses of pressurized water nuclear reactors.
		Design study of low power research reactor for medical isotope production.
	2018-2019	Experimental and numerical studies on thermal hydraulics and neutronics for VVER type nuclear reactor
Design and development of integrated prototype model for nuclear security and physical protection system (PPS) of of a typical nuclear installation		
BME	2015-2016	Development of a solar powered automated 4 wheel small vehicle for disables in social welfare
		The Bionic Hand

	2016-2017	Development of Multipump Infusion Systems for medical use in Bangladesh.
		Investigation of cytokine response in Autistic Children in Bangladesh
		An augmented approach of performing cardiac electrophysiological study.
	2017-2018	Universal Medical Device Remote Controller (UMDRC)
		ECG Arrhythmia Detection Device
		Research Proposal: sports motion capture system design (for continuation).
	2018-2019	National registry development for diabetes patients along with app based noninvasive glucometer and blood pressure monitor development
		Development of a Biomedically Vibrant and Economically Viable Composite Bone Plate
		Improvement of alpha-amylase production from <i>B. licheniformis</i>
		Design and Development of an Advanced Device for the measurement of HEMOGLOBIN by Non- invasive Method
		Multi – Channel Prosthetic Hand for Amputees
	PME	2016-2017
IPE	2016-2017	Statistical Process Control (SPC) to Minimize Defect in Production Process
	2017-2018	Design and Fabrication of an Industrial Process control study station
SC & Hum	2015-2016	Synthesis & Investigation of Co (x) Ni (80) Fe (20-x) Alloy Nanomaterial for Spintronics Applications
	2016-2017	Synthesis & Investigation of Co (x) Ni (80) Fe (20-x) Alloy Nanomaterial for Spintronics Applications
		Effect of La doping on structural, Dielectric and multiferroic properties of $Mg_{1-x} La_x (Ti_{0.5} Fe_{0.5}) O_3$ for lead free Devices application.
	2017-2018	Socio-Economic Development and Biogas Technology: An

		Experimental Study of Integration of Low Cost Hydroponic Green Fodder Machine and Some Safety-Net Programmes of Bangladesh
	2018-2019	Synthesis of Magnesium Ferrite Nano composites for Dye Degradation