ENVIRONMENTAL SUSTAINABILITY ACTION APLAN: Resource Efficiency and Pollution Prevention and Management

S. No	Proposed Interventions / Activities	Compliances applicable	Possible Environmental Impacts	Mitigation Measures	Scope for the integration of best practices under environmental Sustainability concerns	Resources Required (budget, technical support etc.)
1.	Civil works for class room and Laboratory renovation	Preservation of Trees Acts	site clearance and cutting / felling of trees	Ø The proposed project **does not involve cutting forests** and seeks to promote plantations (WB OP 4.36) Ø Limited proposed civil works and construction ,therefore the project is not going to trigger World Bank safety guidelines (WB OP 4.01). Ø Focussed plantation drives as well as compensatory plantations wherever felling of tree is unavoidable.	· Green building consultants /Energy saving consultants · Making campus polythene free	Consultation cost : **2 lac**
		Construction & Demolition Waste Management Rules, 2016	Waste material on account of renovation	Ø Inorganic waste material on account of renovation will be put to alternative use. Recycled for other buildings .	-	Nil

				Ø Organic material decomposed scientifically for manuring		
		National Building Code of India 2005	Use of illegally mined or low quality materials will affect the environment and the infrastructure quality.	Ø In all construction works National Building Code of India 2005 will be followed Ø All raw materials will be sourced from authentic and approved vendors, possessing valid permits. Relevant supporting documents would be presented for scrutiny on request	1. Contracts to be allotted to reputed firms with a track record of Environmental safety compliance. 2. University level mechanism for supervision to be created for compliance.	
			Existing lighting and aeration arrangements is energy intensive	Ø Green building concept to be followed in all future buildings as well as introduced in existing buildings to the extent possible	Already the university has undertaken a major drive for solar power generation for lightening of the streets and in hostels	Nil
			Power supply is erratic	Ø Solar power panels as well as solar street lights.	Standby power arrangements will be installed to ensure safety of installed equipments and machinery	**Rs 35 lacs for** UPS under NAHEP
			Lack of fire safety measures and awareness	Ø Regular and stabilized electricity supply shall be ensured.	Special fire fighting	50 Fire extinguishers (@ Rs.3000 per unit) = **Rs. 2.5 lacs**

				Ø Fire safety measures alarms and equipments in all buildings	trainings as well as mock drills in collaboration with State Fire Safety Department	
		The Noise Pollution (Regulation and Control) Rules 2000)	3. Laboratory renovation works will create noise pollution.	Ø Contract given to firms that have equipments for low noise levels during construction works. Ø The campus will be declared noise free campus Ø Sound emitting construction equipment shall not be used or operated during night times (The Noise Pollution (Regulation And Control) Rules 2000)) Ø Operations like mixing raw materials will be done in areas where people's movement is less and workers will be compliant on using masks.	All buildings to be declared as zero noise buildings	Contractors shall be made legally bound to ensure Noise free construction
2	Instructional practicals and laboratory experimentation	Hazardous Wastes Management and Handling Rules (1989 and Amendment Rules, 2000 & 2003) for prevention of soil and water	Ø Disposal of laboratory waste (chemicals) in to open gutter may contaminate the soil, ground water ,etc	Ø Hazardous waste will be disposed only after treatment Ø No radioactive materials will be used in university Ø Compliance to e-waste (management	Dedicated pipelines and collection chambers for hazardous and non-hazardous wastes emanating from the laboratories	Effluent would be channelled separately from labs @ **Rs 2** lac /lab 6 Effluent Treatment Plants would be installed for 6 labs

		pollution		and Handling) Rules, 2011 · E-waste will be disposed through authorised collection centres of Zebronics limited · The project activities will be made compliant to following national legislative provisions Ø EPA, 1986 Ø Insecticides Act, 1968 Ø Hazardous Wastes (Management and Handling) Rules, 1989 and Amendment Rules, 2000 & 2003. Ø Compliance to WHO laboratory safety manual for safe disposal of laboratory wastes Ø NABL guidelines for residue analysis labs		**(@Rs3 lac** per plant
		Environment Protection Act (1986)	Release of microorganisms with human health implications Import, export, transport, manufacture, and Research on harmful microorganism	No Research / experimentation on microorganisms with human health implications Risk assessment	· Effective mechanism for waste water treatment before release from laboratories and hostels .	BSL lab Type II for biosafety and biosecurity @ **Rs 18 lac**

			s	and characterisation on microorganisms before release as per EPA guidelines	Effective liaison with GEAC, MOEF	
3	Hostels operations and waste management	Municipal Solid Waste (Management & Handling) rules 2000	Release of Hostel waste	Composting of all bio waste from kitchens	Effective mechanism for kitchen waste segregation and composting in 15 hostels	6 Organic Waste Composters @ **Rs 4 lac** each installed in hostels the compost would be used for campus greening
			Unhygienic Cooking systems in hostels	Modular hygienic kitchens		6 Mechanical Floor Scrubbers @**Rs 1.5 lac each**
			Pollution of surroundings on account of improper disposal of sanitary pads	Incinerators for disposal and management of sanitary napkins	10 Incinerators at 5 girls hostels	7 Sanitary pad incinerators in Girls hostels @ **Rs 1.4 lac**
4	Bio-medical waste from veterinary Clinical Complex	Bio-Medical Waste (Management and Handling) Rules, 1998	Disease outbreak	Provision for a safe, ventilated and secured location for storage of segregated biomedical waste in multi-colored bags or containers Pre-treat the laboratory waste, microbiological waste, blood samples and blood bags through disinfection or sterilization on-site in the manner as prescribed by WHO	Storage facility for biomedical waste One biomedical waste treatment facility	Organic Lab waste disposal thru incinerator @ **Rs 6 lac** 500 waste segregation units in the 5 campii would be installed @ **Rs 7.5 lac**