

Sanction order received by .....

Financial support for project entitled "India - UK Center for education and research in clean energy (CERCE)" by Dr. B.G. Fernandes, Department of Electrical Engineering Indian Institute of Technology Bombay, Mumbai, Maharashtra- 400 076, Prof. Santanu Mishra, Dept. of Electrical Engg., Indian Institute of Technology Kanpur, Kanpur - 208016, Prof. Melepurath Deepa, Department of chemistry, Indian Institute of Technology Hyderabad, Hyderabad -502285, Prof. Nabin Sarmah, Department of Energy, Tezpur University, Assam - 784028, Dr. Z. V. Lakaparampil, Department of Power Electronics, Centre for Development of Advanced Computing, Trivandrum. - 695033.

Sanction to the President is hereby accorded to the above-mentioned project at a total cost of Rs.21,83,26,200/- to Indian Institute of Technology Bombay, Rs.1,85,19,515/- to Indian Institute of Technology Tezpur, Assam, Rs.2,11,94,755/- to Indian Institute of Technology Hyderabad, Rs.74,56,445/- to Tezpur University, Assam, Rs.2,13,16,875/- to Centre for Development of Advanced Computing, Trivandrum) with break-up of Rs.5,80,00,000/- under Capital head and Rs.3,24,70,600/- under General head for a duration of 4 years. The items of expenditure for which the total allocation of Rs.21,83,26,200/- has been approved for a period of 4 years are given below:

The following budget is proposed based on quotations for PE and salary norms of project staff:

Sl. No.	Sanction head	1st Year (Lakh)	2nd Year (Lakh)	3rd Year (Lakh)	4th Year (Lakh)	Total (Lakh)
<b>A Non-recurring (Capital Items) Budget Head 3425.60.200.68.01.35.9</b>						
I	Pmt Equipment	Rs.580.00	Rs.343.41	Rs.0.00	Rs.0.00	Rs.923.41
	<b>Total (Capital)</b>	<b>Rs.580.00</b>	<b>Rs.343.41</b>	<b>Rs.0.00</b>	<b>Rs.0.00</b>	<b>Rs.923.41</b>
<b>B Recurring Items (General) Budget Head 3425.60.200.68.01.31.9</b>						
I	Man Power	Rs.147.46	Rs.147.46	Rs.162.72	Rs.162.72	Rs.620.352
II	Consumables	Rs.144.75	Rs.152.75	Rs.102.25	Rs.75.25	Rs.475.00
III	Contingency	Rs.4.00	Rs.4.00	Rs.4.00	Rs.4.00	Rs.16.00
IV	Travel (Domestic)	Rs.4.00	Rs.4.00	Rs.4.00	Rs.4.00	Rs.16.00
V	Travel (International)	Rs.8.00	Rs.23.50	Rs.17.50	Rs.19.50	Rs.68.50
VI	Workshops	Rs.0	Rs.0	Rs.5.00	Rs.5.00	Rs.10.00
VII	Fabrication cost	Rs.12.00	Rs.11.00	Rs.6.00	Rs.7.00	Rs.36.00
VIII	Over Heads	Rs.4.50	Rs.4.50	Rs.4.50	Rs.4.50	Rs.18.00
	<b>Total(General)</b>	<b>Rs.324.706</b>	<b>Rs.347.206</b>	<b>Rs.305.970</b>	<b>Rs.281.970</b>	<b>Rs.1,259.852</b>
<b>C</b>	<b>Grand Total</b>	<b>Rs.904.706</b>	<b>Rs.690.616</b>	<b>Rs.305.970</b>	<b>Rs.281.970</b>	<b>Rs.2,183.262</b>

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A. The break-up of the cost head wise and year wise for IITB is given below (in Lakh):

Sl. No.	Sanction head	1st Year (Lakh)	2nd Year (Lakh)	3rd Year (Lakh)	4th Year (Lakh)	Total (Lakh)
<b>A</b>	<b>Non-recurring (Capital Items) Budget Head 3425.60.200.68.01.35.9</b>					
I	Pmt Equipment	Rs.300.00	Rs.277.85	Rs.0.00	Rs.0.00	Rs.577.85
1.Bipotentiostat bundle with Rotating Ring-Disk Electrode and accessories (1 Nos.) 2.COMSOL software licenses (2 Nos.) 3.Controller board for PE Converters (4 Nos.) 4.DC Programmable Power Supply (2 Nos.) 5.Demonstration and Educational Kits (1 Nos.) 6.Desktop Computer (13 Nos.) 7.DigSILENT Power factory (1Nos.) 8.Eagle Software (1Nos.) 9.GAMS software (5 Nos.) 10.Handheld FTIR and accessories (1Nos.) 11.High performance workstation (2 Nos.) 12.Isolated oscilloscope with power/harmonic measurement features (2Nos.) 13.Laptop Computers for onsite monitoring (3Nos.) 14.Masterflex Peristaltic Pump and tubing's (2Nos.) 15.Multichannel Potentiostat-Galvanostat with Impedance Analyzer (1Nos.) 16.Parallel Studio XE Composer software (2Nos.) 17.Portable EL Camera (1Nos.) 18.Power Electronics Stack (6 Nos.) 19.Programmable DC Power Supply and Programmable DC Electronic Load with True RMS Bench Multimeter and Function Generator (1 Nos.) 20.PV analyzer including IV Curve Tracer (1 Nos.) 21.Real Time Simulator (2Nos.) 22.Redox Flow Cell Test System with accessories (1 Nos.) 23.Scopcorder (3 Nos.) 24.Scopemeter (4Nos.) 25.Server for Digsilent (1Nos.) 26.Single Channel Potentiostat-Galvanostat (1 Nos.) 27.Solar PV Panels (4 Nos.) 28.Surface Pro with Accessories (3 Nos.) 29.Three Phase Power Analyzer (3 Nos.) 30.Three Phase Transformers (6Nos.) 31.Workstation (6 Nos.)						
	<b>Total (Capital)</b>	<b>Rs.300.00</b>	<b>Rs.277.85</b>	<b>Rs.0.00</b>	<b>Rs.0.00</b>	<b>Rs.577.854</b>
<b>B</b>	<b>Recurring Items (General) Budget Head 3425.60.200.68.01.31.9</b>					
I	Man Power	Rs.129.46	Rs.129.46	Rs.142.56	Rs.142.56	Rs.544.032
Twenty eight JRFs @ Rs. 25,000/25,000/28,000/28,000 + 30% HRA (4 years) One RA-I @ Rs. 36,000 + 30% HRA (4 years) One Project Manager @ Rs. 50,000 Four Project Technical Assitant @ Rs. 18,000						
II	Consumables	Rs.91.25	Rs.101.25	Rs.51.75	Rs.30.75	Rs.275.00
III	Contingency	Rs.2.00	Rs.2.00	Rs.2.00	Rs.2.00	Rs.8.00
IV	Travel (Domestic)	Rs.2.00	Rs.2.00	Rs.2.00	Rs.2.00	Rs.8.00
V	Travel (International)	Rs.8.00	Rs.15.50	Rs.15.50	Rs.13.50	Rs.52.50
VI	Workshops	Rs.0.00	Rs.0.00	Rs.5.00	Rs.5.00	Rs.10.00
VII	Fabrication cost	Rs.10.00	Rs.5.00	Rs.0.00	Rs.0.00	Rs.15.00
VIII	Over Heads	Rs.2.00	Rs.2.00	Rs.2.00	Rs.2.00	Rs.8.00
	<b>Total (General)</b>	<b>Rs.244.706</b>	<b>Rs.257.206</b>	<b>Rs.220.810</b>	<b>Rs.197.810</b>	<b>Rs.920.532</b>
<b>C</b>	<b>Grand Total</b>	<b>Rs.544.706</b>	<b>Rs.535.060</b>	<b>Rs.220.810</b>	<b>Rs.197.810</b>	<b>Rs.1,498.386</b>

*Abhishay*

The break-up of the cost head wise and year wise for IITK is given below (in Lakh):

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Sanction head	1st Year (Lakh)	2nd Year (Lakh)	3rd Year (Lakh)	4th Year (Lakh)	Total (Lakh)
<b>Non-recurring (Capital Items) Budget Head 3425.60.200.25.01.35.9</b>					
I Pmt Equipment	Rs.100.00	Rs.15.76	Rs.0	Rs.0	Rs.115.76
C power supplies (1 Nos.) 2.Contactless Soldering Station (1 Nos.) 3.Desktop Computer (4 Nos.) Diesel Generator (1 Nos.) 5.Function Generator (1 Nos.) 6.Grid Emulator (1 Nos.) 7.High voltage probes (1 Nos.) 8.HV Oscilloscope (1 Nos.) 9.LCR Meter (1 Nos.) 10.Portable Digital Storage Oscilloscope (2 Nos.) 11.Solar PV Panels (1Nos.) 12.Source Measure Unit with power supply sink (1 nos.) 13.Test Bench Digital Multimeter (1Nos.) 14.UPS (1 Nos.)					
<b>Total (Capital)</b>	<b>Rs.100.00</b>	<b>Rs.15.76</b>	<b>Rs.0</b>	<b>Rs.0</b>	<b>Rs.115.76</b>
<b>Recurring Items (General) Budget Head 3425.60.200.68.01.31.9</b>					
I Salaries	Rs.6.00	Rs.6.00	Rs.6.72	Rs.6.72	Rs.25.44
RPFs @ Rs. 25,000 ( 1st and 2nd Years) / 28,000 ( 3rd, 4th)					
II Consumables	Rs.8.25	Rs.8.25	Rs.8.25	Rs.8.25	Rs.33.00
III Contingency	Rs.0.50	Rs.0.50	Rs.0.50	Rs.0.50	Rs.2.00
IV Travel (Domestic)	Rs.0.50	Rs.0.50	Rs.0.50	Rs.0.50	Rs.2.00
V Travel (International)	Rs.0	Rs.2.00	Rs.0	Rs.2.00	Rs.4.00
VI Workshops	Rs.0	Rs.0	Rs.0	Rs.0	Rs.0
VII Fabrication cost	Rs.0	Rs.0	Rs.0	Rs.0	Rs.0
VIII Over Heads	Rs.0.75	Rs.0.75	Rs.0.75	Rs.0.75	Rs.3.00
<b>Total (General)</b>	<b>Rs.16.00</b>	<b>Rs.18.00</b>	<b>Rs.16.72</b>	<b>Rs.18.72</b>	<b>Rs.69.44</b>
<b>C Grand Total</b>	<b>Rs.116.00</b>	<b>Rs.33.76</b>	<b>Rs.16.72</b>	<b>Rs.18.72</b>	<b>Rs.185.195</b>

*Bhattacharya*

C. The break-up of the cost head wise and year wise for ITH is given below (in Lakh):

Sl. No.	Sanction head	1st Year (Lakh)	2nd Year (Lakh)	3rd Year (Lakh)	4th Year (Lakh)	Total (Lakh)
<b>A</b>	<b>Non-recurring (Capital Items) Budget Head 3425.60.200.25.01.35.9</b>					
I	Pmt Equipment	Rs.100.00	Rs.9.787	Rs.0	Rs.0	Rs.109.787
1.Controller board for PE Converters (4 Nos.) 2.Data logging and associated control system (4 Nos.) 3.Database server (1 Nos.) 4.Digital Oscilloscope (1 Nos.) 5.DigSILENT Power factory (1 Nos.) 6.Glove Box Work Station package (1 Nos.) 7.Grid Tied Inverter (1Nos.) 8.Guide Rail Energy Meter (4 Nos.) 9.HIL Demo Module (1 Nos.) 10.Mipower software (1 Nos.) 11.Pouch Cell-Supercapacitor Fabrication Equipment (1Nos.) 12.Smart Meter (4 Nos.) 13.Solar PV Panels (5 Nos.) 14.Split Core Current Transformer (30 Nos.) 15.Three Phase Transformers (6 Nos.) 16.Web Based Simulator Smartgrid (1 Nos.) 17.Wireless Serial Module (4 Nos.) 18.Workstation (5 Nos.)						
	<b>Total (Capital)</b>	<b>Rs.100.00</b>	<b>Rs.9.787</b>	<b>Rs.0</b>	<b>Rs.0</b>	<b>Rs.109.787</b>
<b>B</b>	<b>Recurring Items (General) Budget Head 3425.60.200.68.01.31.9</b>					
I	Man Power	Rs.9.00	Rs.9.00	Rs.10.08	Rs.10.08	Rs.38.16
Three JRFs @ Rs. 25,000 ( 1st and 2nd Years) / 28,000 ( 3rd, 4th),						
II	Consumables	Rs.14.00	Rs.12.00	Rs.12.00	Rs.7.00	Rs.45.00
III	Contingency	Rs.0.50	Rs.0.50	Rs.0.50	Rs.0.50	Rs.2.00
IV	Travel (Domestic)	Rs.0.50	Rs.0.50	Rs.0.50	Rs.0.50	Rs.2.00
V	Travel (International)	Rs.0	Rs.2.00	Rs.2.00	Rs.2.00	Rs.6.00
VI	Workshops	Rs.0	Rs.0	Rs.0	Rs.0	Rs.0
VII	Fabrication cost	Rs.2.00	Rs.1.00	Rs.1.00	Rs.2.00	Rs.6.00
VIII	Over Heads	Rs.0.75	Rs.0.75	Rs.0.75	Rs.0.75	Rs.3.00
	<b>Total (General)</b>	<b>Rs.26.75</b>	<b>Rs.25.75</b>	<b>Rs.26.83</b>	<b>Rs.22.83</b>	<b>Rs.102.16</b>
<b>C</b>	<b>Grand Total</b>	<b>Rs.126.75</b>	<b>Rs.35.537</b>	<b>Rs.26.83</b>	<b>Rs.22.83</b>	<b>Rs.211.947</b>

*Abhatcharya*

The break-up of the cost head wise and year wise for TU is given below (in Lakh):

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Sanction head	1st Year (Lakh)	2nd Year (Lakh)	3rd Year (Lakh)	4th Year (Lakh)	Total (Lakh)
<b>Non-recurring (Capital Items) Budget Head 3425.60.200.25.01.35.9</b>					
Pmt Equipment	Rs.30.00	Rs.7.844	Rs.0	Rs.0	Rs.37.844
1. DMSOL software licenses (1 Nos.) 2. Data logging and associated control system (1Nos.) 3. Curve Tracer (1 Nos.) 4. Pvsyst software (1 Nos.) 5. Thermal Imaging camera (1Nos.)					
<b>Total (Capital)</b>	<b>Rs.30</b>	<b>Rs.8</b>	<b>Rs.0</b>	<b>Rs.0</b>	<b>Rs.38</b>
<b>Recurring Items (General) Budget Head 3425.60.200.68.01.31.9</b>					
Man Power	Rs.3.00	Rs.3.00	Rs.3.36	Rs.3.36	Rs.12.72
JRF @ Rs. 25,000/25,000/28,000/28,000.					
Consumables	Rs.4.75	Rs.4.75	Rs.3.75	Rs.2.75	Rs.16.00
Contingency	Rs.0.50	Rs.0.50	Rs.0.50	Rs.0.50	Rs.2.00
Travel (Domestic)	Rs.0.50	Rs.0.50	Rs.0.50	Rs.0.50	Rs.2.00
Travel (International)	Rs.0	Rs.2.00	Rs.0	Rs.0	Rs.2.00
Workshops	Rs.0	Rs.0	Rs.0	Rs.0	Rs.0
Fabrication cost	Rs.0	Rs.0	Rs.0	Rs.0	Rs.0
Over Heads	Rs.0.50	Rs.0.50	Rs.0.50	Rs.0.50	Rs.2.00
<b>Total (General)</b>	<b>Rs.9.25</b>	<b>Rs.11.25</b>	<b>Rs.8.61</b>	<b>Rs.7.61</b>	<b>Rs.36.72</b>
<b>Grand Total</b>	<b>Rs.39.25</b>	<b>Rs.19.094</b>	<b>Rs.8.61</b>	<b>Rs.7.61</b>	<b>Rs.74.564</b>

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