## Details of Items to be Procured under TEQIP

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Items with brief description</th>
<th>Contact details</th>
</tr>
</thead>
</table>
| 1      | Vector Control drive unit consisting of  
|       | a) 1.5 HP, PMSM motor with sinusoidal back emf and speed sensor  
|       | b) IGBT based IPM (Intelligent Power Module)  
|       | c) DSP controller and control software for monitoring  
|       | d) Loading facility and other basic accessories | Dr. Dinesh Pai A  
|        | | 9446101858  
|        | | adpai@yahoo.com |
| 2      | Vector Control drive unit consisting of  
|       | a) 3 phase, fractional HP, squirrel cage induction motor with speed sensor  
|       | b) IGBT based IPM (Intelligent Power Module)  
|       | c) DSP controller and control software for monitoring  
|       | d) Loading facility and other basic accessories | Prof. Abhilash T Vijayan  
|        | | 9447007895  
|        | | abhilashtv@rediffmail.com |
| 3      | Sensor less Vector Control drive unit consisting of  
|       | a) 3 phase, fractional HP, squirrel cage induction motor  
|       | b) IGBT based IPM (Intelligent Power Module)  
|       | c) DSP controller and control software for monitoring  
|       | d) Loading facility and other basic accessories | |
| 4      | Switched Reluctance Motor drive unit consisting of  
|       | a) SRM motor (fractional HP)  
|       | b) IGBT based IPM (Intelligent Power Module)  
|       | c) FPGA controller and control software for monitoring  
|       | d) Loading facility and other basic accessories | Prof. C K Vijayakumari  
|        | | 9495636816  
|        | | vijayakumari@rit.ac.in |
| 5      | Brushless DC Motor drive unit consisting of  
|       | a) BLDC motor (fractional HP)  
|       | b) IGBT based IPM (Intelligent Power Module)  
|       | c) FPGA controller and control software for monitoring  
|       | d) Loading facility and other basic accessories | |
|   | **DC motor driven brushless alternator with harmonic excitation winding**  
(Three phase, 415V, 15 kVA) | Prof. Jiji K S  
9446897218  
jiji.sajeev@rit.ac.in |
|---|---|---|
| 7 | **DC motor driven Brushless Alternator**  
(Three phase, 415V, 10 kVA) |  |
| 8 | **High Power Electronic Load**  
Single phase, 1200 VA, 300V with CC/CV/CP modes | Prof. K D Joseph  
9496291322  
josephmtech@gmail.com |
| 9 | **Harmonic Generator**  
Single phase, 1500 VA, 300 V , upto 1kHz. |  |
| 10 | **DC Variable Power Supply**  
(0–30 V, 3 A) |  |
| 11 | **Virtual Instrumentation setup using LabVIEW**  
a) USB based DAQ cards  
b) NI Compact R10 with modules  
c) Sensors (both wired and wireless)  
d) Accessories  
e) Up gradation of LabVIEW 8.2 software to latest version - Proprietary Hardware’s of National Instruments, USA | Prof. Johnson Mathew  
9495081149  
johnson@rit.ac.in |
| 12 | **dSPACE (5 user license)**  
A software–hardware environment (control desk) for electric drives control with interfacing to Matlab/Simulink software platform - A proprietary item of dSPACE GmbH, Germany | Prof. K D Joseph  
9496291322  
josephmtech@gmail.com |
| 13 | **Software for Low-frequency electromagnetic field simulation and analysis using FEM for 3D/2D structures**  
capable of -  
• Solving static, frequency domain and time-varying electromagnetic and electric fields including quasi static parameters.  
• Modeling Electric motors and generators, transformers, bus bars, relays, solenoids, power electronics both individually and as a complete system.  
• Modeling rotating electrical machines using design templates for Induction machines, Single-phase motors, Three-phase motors, Wound-rotor motors and | Prof. Jiji K S  
9446897218  
jiji.sajeev@rit.ac.in |
generators, Synchronous machines, DC motors and generators, Permanent magnet DC motors, Universal motors, Electronically commutated machines, Brushless DC motors, Adjustable-speed PM motors and generators, Switched reluctance motors, Claw-pole generators etc.

- Modeling, simulation, analysis and optimization of complex systems including electromechanical, electromagnetic, and electrical drives with integrated power electronics.
- Third party software co-simulation with SIMULINK, MATHCAD for closed loop control
- Single User License