**TERMS OF REFERENCE FOR THE RESEARCH ASSISTANT FOR DEVELOPMENT ORIENTED RESEARCH (DOR) PROGRAMMES**

**1. BACKGROUND**

The Development of the Higher Education Sector is of central importance to enable Sri Lanka to make the transition from a Lower – Middle Income Country (LMIC) to an Upper Middle – Income Country (UMIC). Recognizing this, the Government of Sri Lanka (GoSL) and the World Bank have agreed to support the higher education sector through a World Bank funded Accelerating Higher Education Expansion and Development (AHEAD) Operation.

**2. THE OPERATION**

The AHEAD Operation is organized in two components. The first is a Program Component that supports the national Higher Education Development Program. The second is a systems strengthening, capacity building and technical assistance component that will assist GoSL to strengthen the higher education sector and achieve the objectives of the AHEAD program component. This second will also cover monitoring and evaluation, policy analyses, program coordination and communication.

The implementing agency is the Ministry of Higher Education, Technology and Innovation (MHETI). The University Grants Commission (UGC) will coordinate the activities of the universities. There will be an Operations Monitoring and Support Team (OMST) which will coordinate and support all AHEAD activities between the Ministry of Higher Education, Technology and Innovation (MHETI), UGC, and the universities.

**AHEAD has three Results Areas:**

Results Area 1: Increasing Enrollment in Priority Disciplines for Economic Development

Results Area 2: Improving the Quality of Higher Education

Results Area 3: Promoting Research, Development, Innovation and Commercialization (RDIC)

**3. TITLE & THE DESCRIPTION OF THE DEVELOPMENT ORIENTED RESEARCH (DOR) PROJECT UNDER RESULTS AREA - 3**

***“Development of Novel Electrolyte and Electrode Materials for Secondary Sodium-Ion and Magnesium-Ion Batteries”***

Development of novel electrode and electrolyte materials for sodium-ion and magnesium-ion batteries will be carried out under this project. Battery cycling and performance evaluation of full-cells will also be done. Better understanding of the fundamental processes involved in the development of novel electrolytes and electrode materials will be one of the important performance achievement targets at the successful completion of this project.

**4. KEY TASKS**

Subject to any specific directives given by the Director/OTS, Project Co-ordinator and the Deputy Project Co-ordinator, the main duties / responsibilities of the candidate as a Research Assistant will be:

1. Assist the research team to achieve the assigned KPIs (Key Performance Indicators) within the

 timeline

1. Synthesize and characterize novel electrolyte and electrode materials for rechargeable sodium-ion and magnesium-ion batteries
2. Design and execute laboratory experiments in accordance with standard protocols and procedures
3. Assist with preparation of manuscripts and presentations in conferences for dissemination of research findings
4. Able to work at the Faculty of Science, University of Jaffna as per the instructions given by the Project Co-ordinator / Deputy Project Co-ordinator and other team members in the project.
5. Maintain a research log book to update the daily research progress
6. Submit research progress reports for every 3-month period to Project Co-ordinator/Deputy

 Project Co-ordinator

1. Any other relevant duties assigned by the Director/OTS, Project Co-ordinator and the Deputy

 Project Co-ordinator.

**5. METHOD OF RECRUITMENT**

This is a full-time position. Initially the contract appointment shall be for a period of 12 months. The position may be renewed for another 18 months based on performance and need during the period of the operation. The candidate is encouraged to register for an MPhil programme with the University of Jaffna and the registration fee for the MPhil programme shall be covered by the project.

**6. RENUMERATION**

A monthly payment of LKR 55,000/= (it includes cost of living allowance) and applicable EPF & ETF will be paid. Payments will be made on the approval by the OTS/ Director on the recommendation of the Project Co-ordinator.

**7. REQUIRED QUALIFICATIONS AND EXPERIENCE**

1. Bachelor of Science (BSc) degree with either Physics or Chemistry related course components
2. A track record of research as evidenced by publications / presentations at undergraduate or postgraduate level would be an added advantage
3. Prior research experience pertinent to ‘*Materials Science*’ or ‘*Rechargeable Batteries*’ is desirable

**Age**: Not more than 40 years

**8. PROFESSIONAL COMPETENCIES REQUIRED**

1. High level of proficiency in written and spoken English
2. Ability to function effectively in a team environment inspiring trust and cooperation of other team members
3. High level of IT literacy
4. Knowledge in novel materials for batteries, basic electrochemistry and spectroscopic techniques
5. Proven analytical skills and ability to work independently in a research team
6. Ability to solve technical and methodological issues during project implementation