Executive Summary MSc. Mathematics Faculty of Science and Technology Self Assessment Cycle – II (2021-22)

Virtual University of Pakistan is providing world class ICT-based distance education to the aspiring students in Pakistan and abroad and addressing simultaneously the acute shortage of qualified professors in the country. To fulfill needs of Quality Assurance Agency (QAA) of HEC for ranking the program, Department of Mathematics initiated the Self-Assessment process for the degree program MSc. Mathematics. The current document summarizes the findings of the self-assessment process of MSc. Mathematics. The process includes:

- 1. Self-Assessment Report (SAR) development by Program Team (PT).
- 2. Assessment Report (AR) by Assessment Team (AT) after critical evaluation.
- 3. *Rectification Plan* administered by the Head of Department.

The tasks were completed according to the set methodology through Program Team and Assessment Team nominated by the Rector on the recommendation of the Department.

Methodology

The department adopted the identical methodology defined by Quality Assurance Agency of HEC. The methodology includes the nomination and notification of PT and AT after approval of the competent authority. PT developed the SAR in accordance with eight (8) criteria provided by QAA. Various recommended surveys were also conducted for collecting diverse feedback. A meeting was arranged for critical evaluation of the program in which AT member and staff of Directorate of Quality Enhancement (DQE) were present. After the visit, AT submitted a report and feedback form (Rubric Form) to DQE. Based on the findings of AT, the Head of Biology Department was requested to develop a rectification plan.

Sr.#	Name	Status	Designation
1.	Dr. Aisha Siddiqa	РТ	Lecturer, Department of Mathematics
2.	Dr. Muhammad Usman	AT	Assistant Professor, Department of Mathematics

Program Team and Assessment Team Formation

Key Findings of the SAR

The AT appreciated the efforts of PT to develop such a comprehensive report of the degree program 'MSc. Mathematics'. The AT endorsed the program structure and suggested few improvements like defining course categories as per HEC nomenclature designed by the department and prerequisite courses of the degree program. The infrastructure and support provided by the university to execute the program were also reviewed and considered compatible with smoothing execution of the program. However, the following few observations were reported by AT in its report:

- 1. To revise the categories of courses in scheme of studies similar to HEC nomenclature like Foundation, Core, Compulsory, Elective instead of "Required" etc. and to publish updated information on the program page of VU website.
- 2. Video lectures and subject material should be updated for the courses in regular intervals.
- 3. The documented program objectives and outcomes should be reviewed at a regular intervals to make them more aligned and realistic.
- No guidelines from HEC are available about all degree programs of duration
 2-years or less. The future of MA/MSc. degree programs is uncertain.
- 5. Support and time should be provided for research and scholarly work and VUP officials must take appropriate measures.
- 6. Faculty as well as students should have full access to HEC digital library. The relevant reference books should be available at physical library of VU.
- 7. Fund should be provided to faculty for development of research area especially for participation in local/international workshop/conferences.
- 8. To establish proper section or department regarding career counseling and development of students regarding opportunities in the market and to build relation with the industry.
- 9. Ticketing system has been introduced to handle the student queries effectively. However, there arise need to educate and provide awareness to students regarding its usage.
- 10. Proper office infrastructure for faculty need to be developed.

Conclusion and Recommendations

Analysis of the Criteria Referenced Self-Assessment reveals that performance of the department is good to excellent in most of the areas, however, fair performance has been observed in only one of the areas i.e. criterion 8 (Institutional Support). The program has secured overall good to excellent performance in all areas with assessment score (79.17/100) reported by the AT.

The areas that need corrective actions identified during the self-assessment process have been reported to the Head of Mathematics department for rectification. DQE will follow-up the rectification plan as per specific time-frame to track continuous improvement.

Prepared by:

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