

TEST CASE REPORT

Project Title: UET Intelligent Prospectus Advisor

Module: GraphRAG & Hybrid Retrieval Engine

Date: January 31, 2026

Tester: M. Haroon (2025-S-MS-AI-04)

1. Executive Summary

This report documents the Quality Assurance (QA) testing of the **UET Intelligent Prospectus Advisor**. The system was tested against a dataset of domain-specific questions derived from the *UET Lahore Prospectus 2024-25*. The testing focused on accuracy, reasoning capabilities, scope enforcement (guardrails), and handling of negative constraints.

Total Tests Executed: 9

Passed: 9

Failed: 0

Success Rate: 100%

2. Test Case Execution Details

Test ID	Category	Question (Input)	Expected Behavior	Actual AI Response	Status
TC-01	Department Info	<i>"I am interested in the Department of Electrical Engineering. Can you list all the programs they are</i>	System should list specific programs (PhD, MSc) for Electrical Dept.	Correctly Listed: Ph.D. Electrical Engineering, M.Sc. Electrical Engineering, M.Sc. Artificial Intelligence.	PASS ✓

		<i>offering this spring?"</i>			
TC-02	Program Eligibility	<i>"Does the Department of Architecture offer a Ph.D. program, or is it only for Master's students?"</i>	System should clarify if PhD is available.	Correct: "NO... Department of Architecture does not offer a Ph.D. program; it is only for Master's students."	PASS 
TC-03	Scope Guardrail	<i>"I want to do an Executive MBA. Does the Institute of Business and Management require any professional experience...?"</i>	System should enforce scope if question is outside defined boundaries (or restrict answer).	Correctly Restricted: "I only answer department/academic information."	PASS 
TC-04	Fact Retrieval	<i>"I am looking for the faculty list for the Department of Mathematics. Who is the Chairperson?"</i>	System must identify the specific person named in the text.	Correct: "The Chairperson of the Department of Mathematics is Prof. Dr. Muhammad Mushtaq."	PASS 

TC-05	Reasoning Chain	<i>"I want to apply for M.Sc. Artificial Intelligence. Should I select the Department of Computer Science...?"</i>	System must link the program to the correct hosting department (Electrical vs CS).	Correct Reasoning: Identified that M.Sc. AI is listed under the Department of Electrical Engineering and advised selection accordingly.	PASS 
TC-06	Disambiguation	<i>"M.Sc. Disaster Management vs Mitigation... Which one is offered by the Civil Engineering department?"</i>	System must distinguish between similarly named programs.	Correct: "M.Sc. Disaster Mitigation Engineering is offered by the Civil Engineering department."	PASS 
TC-07	Out-of-Scope	<i>"What is the fee structure for the M.Sc. programs?"</i>	System should refuse to answer if Fees are defined as out-of-scope in the dataset/prompt instructions.	Correct Refusal: "I only answer department/academic information."	PASS 
TC-08	Out-of-Scope	<i>"Does the university provide transport/bus service for students commuting from other cities?"</i>	System should refuse non-academic queries.	Correct Refusal: "I only answer department/academic information."	PASS 

TC-09	Negative Fact	<i>"Is there an entry test required for the MS programs? If so, what is the passing score?"</i>	System should correctly state if information is <i>missing</i> rather than hallucinating.	Correct: "NO... there is no mention of an entry test or passing score for MS programs."	PASS ✓
-------	----------------------	---	---	--	------------------

3. Conclusion

The UET Intelligent Prospectus Advisor successfully demonstrated:

1. **High Accuracy:** Correctly retrieved specific entities (Faculty names, Program titles).
2. **Complex Reasoning:** Successfully linked programs to departments even when names were similar (Disaster Management vs. Mitigation).
3. **Strict Guardrails:** Appropriately refused to answer out-of-scope questions (Fees, Transport) as per the system's design instructions.