

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 am interested in the Department of Electrical Engineering. Can you list all the programs they are	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 
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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.